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Louisville, Ky.

VOL. XIII. JULY, 1861.

No. 7.

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One Page 1 month \$18 00, and each month thereafter \$15 00.

Half Page 1 month \$10 00, and each month thereafter \$8 00.

One square, of 8 lines, 1 month \$2 00, and for one year \$18 00.

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THE ARMY WORM.

We regret that we have not been able to obtain more information about the history and habits of this insect. We have referred to our agricultural exchanges and to several treatises on entomology, and find but little in reference to it.

It is strange that so destructive an insect—an insect which has destroyed this year crops worth millions of dollars—should be so much unnoticed. It is true that we have found notices in some of the back volumes of our exchanges of the ravages of this insect; but as to what will prevent its ravages in future years, or what has been peculiar in the seasons to bring them forth in such numbers, not a word has been offered. The history of this destructive pest has not been given. We can find nothing in Dr. Fitch's reports to the New York Agricultural Society about it; and Dr. Harris, in his treatise on Insects in New England Injurious to the Agriculturist, is also silent. Both

these gentlemen are celebrated entomologists, and we are led to infer that the Army Worm has never committed any depredations in the North, and particularly any such depredations as it has in Missouri, Illinois, Kentucky, Ohio, Virginia, Maryland, and some other States.—An enormous loss has, in different seasons, been sustained in all these States by this grass devourer. Sometimes it is not heard from in eight or ten years, and again it is present in full force the second or third year from its last appearance. Sometimes it is very destructive in one section of the country and entirely harmless in another.

We are led to infer, therefore, and indeed have no doubts upon this point, that either the past summer, fall or winter has been favorable for the perfect insect to preserve its eggs, or that the season in which they appear is peculiarly favorable for hatching; and perhaps both the past and present season have been and must be so, for their production in such quantities.

The last summer was very dry, and well adapted therefore to preserve the eggs of the moth, which is the perfect insect of this worm. The past fall was a very favorable one, with but little rain, and of an even temperature. The past winter was mild, dry, and without great extremes of heat or cold. The spring has been a wet one. We have had frequent and abundant showers. Most farmers say they have appeared because the season has been so rainy; but we have had just as wet springs, and no army of worms—so something besides a wet spring is necessary to bring them forth.

We would like to get some information about the weather (both in summer and winter) in the seasons preceding their appearance, either in our own or other sections of the country.

Most of our readers, we suppose, know that these insects are in their larva state when they are so destructive, this being the second stage of their existence—the egg, the first stage: that after eating for a certain number of days, they undergo a change and form into a chrysalis, or the pupa state, in which they remain a certain time, when they appear with wings or in the moth state. In this state they deposit their eggs. The worms do not propagate at all.—The moths deposit their eggs on or near the ground on the stalks or roots of Timothy, or other grasses, or objects; and if these eggs are not destroyed by the weather or other means, and if the season is favorable for hatching most of the eggs, the larva or worms appear in such vast numbers as to devour everything before them.

There is no doubt more or less are produced every year; but it is only occasionally that enough of the eggs are preserved and hatched to appear in the armies they have in this part of the West the present season. Sometimes the spring is favorable to the hatching of the eggs, and they then appear; but if the spring is unfavorable and the fall is favorable, they then appear in fall instead of spring; and if both fall and spring are favorable for the hatching of the eggs, they then appear in both seasons, the same summer. If neither the spring nor fall is favorable, of course they do not hatch—at least in such myriads. If the present summer proves favorable for preserving the eggs, and the fall for their hatching, they would appear in far greater numbers, because there are so many moths the present season to deposit their eggs. But a wise Providence has placed so many checks upon the too rapid production of all kinds of insects that we need not anticipate their appearance in such numbers this fall.

Some of our correspondents have informed us that they do not come from ground that has been plowed the past spring—but that they come from meadows, and fields that were sown to wheat the past fall. It is important to know whether plowing a meadow in the spring, where the eggs were deposited in the fall, will prevent the eggs from hatching. This may be the case. The eggs by being buried in the ground, may be so far removed from the necessary heat, and perhaps other conditions, that they will not hatch. If this be so, it would be well to plow meadows in the spring, and sow millet until they are checked.

There are many interesting questions connected with this terrible pest which need to be

solved, and we ask our readers to give us all the information they can in regard to them. At this present writing (June 10th), we cannot find upon our farm a single worm, although they have been so abundant as to destroy our meadows, young corn, &c. We presume they have gone for the season, and hope it will be a long time before they appear again.

[Written for the Valley Farmer.]

EXTREMES HAVE THEIR USES.

It is the observation of this tendency to extremes in every department within the scope of our knowledge that constitutes experience, and it is the application of means calculated to modify those extremes that we denominate wisdom.

To the agriculturist, these habits of close observation are essential, because the lessons then learned, by being reduced to practice, enable him so to make his arrangements as to introduce into his system a *balance* or *regulator*.

The watchmaker found that the fact of constructing a motion was not sufficient without a something to regulate that motion, and the pendulum and balance in the clock and watch were introduced; still, the metals of which they were formed being extremely sensitive to the variations of the atmospheric temperature, combinations of various metals and of various mechanical forms were adopted, till the very contractions and expansions of the metals were made to regulate themselves, and that almost priceless triumph of mechanical ingenuity a *good chronometer* resulted, which sets the changes of the temperature almost absolutely at defiance. Here is a grand achievement, the result of application of facts gleaned by observation.

Last season was one of unprecedented drouth in our State, and we then called to mind the fact that where the soil was kept free to a great depth, and was kept clear of weeds and surface crust, the crop was double what was obtained from hard, compact, impermeable sub-soils, with the soil imperfectly loosened, caused by the fear to disturb the weeds, lest the drouth should penetrate to the roots of the plants and destroy them altogether—and the hard, indurated crust denied the poor plant the slight benefits of either air or dew.

We held that a few acres, well drained; sub-soil plowed; thoroughly opened to the influence of the atmosphere, with its surface so regularly stirred that it drank in the dew, and that the

very depths of the ground threw up their gases to the high and dry atmosphere above, were incomparably better, and more profitable than the immense neglected tracts with the entire vegetation burned up: and in the two methods we could easily trace which was the philosopher and which the cormorant or the sloven.

This season, again, Nature teaches us the same differences by another and opposite method. The early spring was ushered in by rain, and week after week passed without the ground ever getting dry. The ground got completely water-soaked, and in many instances the early spring crops could not be got into the ground—and again the same succession of wet seems to be repeated, with the same baneful consequences. Now, where the soil is free to a considerable depth, the rain that falls upon the surface descends; and thus, to a very great extent, prevents washing. Where the sub-soil is rendered open and friable, the water has still farther scope; and where there is a free and easy method of drawing off the surplus water that thus descends, as by drains, the ground dries much quicker, and the plow or cultivator can be used in a much shorter time after rain—so that in numerous instances crops could have been got in, that are not; and those put in, would be in a much better condition for growth and after-culture; and the water descending through the soil as through a filter leaves the gases and other elements it may contain in the soil, which thus becomes rich, dry, warm and strong in vegetable stimulus.

This spring, in many cases, there was not time enough between the spells of wet weather to allow the land being worked or the crop put in. These same conditions most powerfully affect the crops in harvesting and in the fall. And if the amount of labor lost in consequence of the unfitness of the soil for the purposes intended, were annually expended in under-draining and sub-soiling, it would go far to change the present condition of the operations of the farm; and combine with this the unwavering determination to apply all the spare labor to getting the old land in good condition, instead of making new land, and the balance sheet of the farmer would show differently in an average of five or ten years.

No manuring, no rotation of crops, no dairy or stock farming can alter the facts in this case, or act as a substitute; and the only feasible objection to its adoption is put in the form of the query—In the high-priced condition of la-

bor, will it pay?—is the unanswerable argument for its necessity. For it does not pay to expend high-priced labor clearing and fencing ground to be washed away and ruined. It will not pay, having high-priced labor waiting day after day for the land getting into condition to work. It will not pay, trying to cultivate a hundred acre farm with a force that forty acres would require—losing the benefits of the labor—losing heart in the hard, straining, uphill operation; and losing the capital, interest and taxes on six-tenths of the area absolutely, and leaving the remaining four-tenths a loss, and a burden, to be bequeathed to a family reared in a hearty disgust of the soil and all its concerns.

So we see that the grand regulator of the season, of the labor, of the capital, and of the profits of the farmer, is the proper combination of *under-draining, sub-soil plowing, and thorough surface cultivation.* W. M.

[Written for the Valley Farmer.]

Care of Farming Implements.

CAPE GIRARDEAU Co., Mo.
June 3rd, 1861.

In traveling about in this part of the State, as well as other parts, I find that a great many of the farmers pay but little attention to this most important part of the farm. I see their plows out in the fields where they finished plowing their corn and last fall's grain; their reapers and mowers in the fields and meadows where they finished their last harvesting; threshing machines at the threshing grounds; harrows in the fence corners; pitch-forks scattered about the barn, some with the prongs sticking in the ground; and in fact almost everything they have on their farms suffers more or less from exposure to bad weather.

How long does it take to wear out such costly articles thus exposed to all kinds of weather, and through all seasons of the year? They cannot by any means be of much service after the second or third year; whereas if they would build a barn, or even a shed, and put them under it as soon as through work, they would last about five times as long. But they do not seem to look far ahead.

I have often heard some farmers say to others, How is it that we purchased our threshing machines, reapers, harrows, &c., the same day, and my thresher is worn out, my reaper is all rusted and not fit to save another harvest, and the teeth are all falling out of my harrow, and yet yours are almost as good as new. Their reply would be, I take care of mine by

keeping them well sheltered and dry; and you leave yours to take care of themselves. This looks like proof enough for every careless farmer to take heed and adopt a strict method, by having a place for everything and everything in its place. A great many of our wealthiest farmers, "but not the best," have good barns and plenty of room in them for all their farming implements, but instead of seeing them all put away safe and dry as soon as through work, will trust them with some one who is careless, and they are all left out through another fall and winter, and when spring comes it takes about one week to get them altogether; then about two-thirds will have to go to the shop for repairs.

All farmers should try and take care of their implements, as neatness and cheapness are the main things in farming.

Such farmers as I have mentioned above do not take such a journal as the *Valley Farmer*, if they did, I think they would be much more economical. It will soon be the end of another season, and let the farmers try and take care of their implements, and take the *Valley Farmer*.

W. S. M.

Buckwheat—Its Culture.

But little Buckwheat, comparatively speaking, is grown in this portion of the West. Much is imported every year from the East for the use of the residents of our cities. The flour always commands in St. Louis a higher price than wheat flour. It is high time that the West should raise every article for the consumption of her own people.

Buckwheat is easily and cheaply cultivated, and can succeed other crops. The seed may be sown any time in July. Oats or wheat stubble may be plowed and a profitable crop raised the same season. This season, when the prospect is that all kinds of farm commodities will be high, everything should be put in that can be well cultivated and cared for.

Half a bushel of seed should be applied to the acre. The land for the seed should be put in good condition. Buckwheat straw is generally supposed to be worthless, but this is a great mistake. If it is carefully taken care of, put up in the barn or stacks without too much exposure to the weather, it is as good as hay. Indeed where meadows and other crops have been destroyed by the Army Worm, as they have been this season, it will well pay farmers to plant buckwheat for the straw alone, al-

though they will, of course, obtain a profitable crop of seed.

The crop may be cut with the scythe or cradle, though the latter is better for the purpose as it may be more easily put into small bundles and thus be more carefully handled.

Who is not fond of good buckwheat cakes? Now is the time to sow the seed so as to have them.

SURFACE MANURING.

Opinions change in regard to the manner of applying manure as well as on many other subjects in the scale of progression and improvement. The farmers and writers of earlier times advocated the practice of spreading manure fresh from the yard and turning it immediately under with a plow, without allowing it to be exposed for any length of time to the sun and air, lest it should dry and part with its volatile gases. Long or unfermented manure was considered the best for this purpose, because it was supposed that the process of fermentation would progress after being plowed under, and the ammonia with which it parted while undergoing this process would be absorbed and retained by the soil. It was conceded that there was some risk in applying manure in this way, which was generally applied to hoed crops, such as corn and potatoes, because, if the season proved a dry one, and the quantity of manure plowed under was large, the crop was more likely to be burned up than if no manure had been applied. But if the season continued wet, the decomposition of the manure went on, and the crop deriving the full benefit of the application, the harvest was much increased. But in the succeeding crop of wheat, or other small grain, still greater benefit was derived from the manure.

All this looked very well in theory, and even among its strongest advocates the error in its practice was not discovered. More recently many experiments have been made on different modes of applying manure, and we believe it has been established, beyond a doubt, that the most wasteful and the least beneficial practice, is that of plowing under manure in its fresh or unfermented state. These experiments further prove that the most marked beneficial effects of applying manure, is in a liquid state. This method, probably, is attended with more trouble and inconvenience than by any other mode of application, and hence it is only where the greatest necessity for manuring exists that this method is brought into practice. It may

not be amiss, in this connection, to remark, that the liquid manure from the stables and the yard, the drainage of the entire accumulation for the season, not only is the most valuable portion of the manure, but unless applied in the liquid state, it is generally entirely lost.

In some few instances among the better farmers, yards and stables are so arranged that with a good supply of muck, or similar absorbent kept on hand, to be employed, as occasion may require, this most essential part of the manure is prevented from running to waste.

In applying the dry or more substantial portion of the manure, repeated experiments have proved that the greatest benefits are derived from surface application. The time or season of applying the manure depends on circumstances. If on land in grass that is intended for corn or potatoes, the best time to apply the manure is early in the fall, spreading it evenly over the surface in a fine, decomposed state. This stimulates the growth of grass, which when turned under for the spring crop adds at least double to the quantity and value of the manure in the increase of blades and roots to the grass, which decay and impart sustenance to the growing crop throughout the entire season.

Manure when applied on thin, poor places, to a crop of wheat, has been found vastly more beneficial when spread upon the surface than when plowed under.

The same preference is given to surface manuring for spring crops, whether in field or garden. Let the ground first be broken up, then spread the manure and scatter and divide it by the use of the harrow. Manure can only be appropriated by growing plants in a state of solution. The water from the dews and rains, as it descends from the surface, carries with it the manure in solution to the roots of the growing crop just where it is most needed, while the bulky portions remain upon the surface to keep it moist, light and mellow. When manure is buried six or eight inches below the surface with the plow, the most of the available portions (that which is in a liquid state) filter still deeper into the soil below the roots of the plants, and is, in a great degree, lost, while the undecomposed portions of the manure below the surface tend to check the free circulation of moisture in the soil and increase the evils of drouth.

In enriching trenched ground for garden and vineyard purposes, where the sub-soil is to be renovated, if manure is employed it should be made into compost by the combination of decay-

ed turf, scrapings from the fence corners, deposit from basins, &c. In this case the object is different from that of applying manure to annual crops.

Manure should be well decayed and fine before it is applied to the land. But the most important part of the whole question of manuring, is that connected with the place and manner of making it. The barn-yard should be so arranged as to retain all the liquid portions of the manure with the least possible waste from washing rains; to avoid this many farmers have barn cellars, or cast their manure under sheds, so arranged that all the liquid manure from the stalls is secured and absorbed by straw, muck, &c., kept on hand for the purpose.

VIRGIL ON AGRICULTURE.

We have, on former occasions, stated in the *Valley Farmer*, that the ancients understood practical agriculture as well, and better, than many of the farmers of the present day. Indeed, we can still learn many useful lessons from the writers of ancient times, on the proper cultivation of the soil.

In order that our readers may learn what was said on this subject, even before the birth of Christ, we here present a correct translation of what was written by Virgil, the great poet, nineteen centuries ago. We shall give extracts from his celebrated *Georgics*. He says:

In early spring, when melted snow glides down from the hoary hills, and the crumbling glebe unbinds itself by the zephyr, then let my steer begin to groan under the deep-pressed plow, and the share, worn by the furrow, commence to glitter. That field at last answers the wishes of the covetous farmer, which twice hath felt the sun, twice the cold—harvests immense are wont to burst his barns.

[Note—Anthon observes: "The usual custom of the Roman farmers was to plow the land three times, when it fell under the denomination of hard land. The first plowing was in the spring, the second in the summer, the third in autumn. In this way the ground was exposed twice to the heat of the sun, and once to the frost. If, however, the soil was unusually hard and stubborn, a fourth plowing took place at the end of autumn or beginning of winter; and it is to such a process that the poet here alludes, the land having thus, in the course of its four upturnings with the plow, twice felt the sun and twice the cold."]

But, before we cleave an unknown plain with the plowshare, let it be our care previously to learn the winds, and various character of the climate—the ways of culture practiced by our forefathers, and the tillage and habits of the soil—what each country is apt to produce and what to refuse. Here grain; there grapes more happily grow; nurseries of trees elsewhere, and herbs spontaneous bloom. Do not you see how Tmolus sends saffron odors; India, ivory; the soft Sabæans, their frankincense? But the naked Chalybes send steel; Pontus, strong-scented castor; Epirus, the prime of the Olympic mares. [Note—Epirus was a part of Greece, famous for its fine breed of horses.] These laws and eternal conditions Nature from the beginning imposed on certain places. * * Come, then, let your sturdy steers forthwith turn up a soil that is rich for the first month of the year, and let the dusty summer bake the scattered clods with mature suns. But if the land be not fertile, it will be enough to raise it up with a light furrow, even toward the rising of Arcturus; in the former case, lest weeds obstruct the joyous corn; in the latter, lest the scanty moisture forsake the barren, sandy soil.

You will, likewise, suffer your lands after reaping to lie fallow every other year, and the exhausted field to harden by repose. Or, changing the season, you will sow there yellow wheat, whence before you have taken up the joyful pulse, with rustling pods, or the vetch's slender offsprings, and the bitter lupine's brittle stalks and rustling grove. For a crop of flax exhausts the land; as do oats, and poppies impregnated with Lethæan sleep. But yet your labor will be easy (even though you should sow these kinds of grain) every other year, provided only you be not backward to saturate the parched soil with rich dung, or to scatter sordid ashes upon the exhausted lands; thus, too, your land will rest by changing the grain: nor in the mean time will there be ungratefulness.

Often, too, it has been of use to set fire to barren lands, and burn the light stubble in crackling flames; whether the land thence receives secret strength and rich nourishment from a field left fallow; or whether every vicious quality is exhaled by the fire and the superfluous moisture sweats off; or whether the heat opens more passages and secret pores, through which the sap may come to the tender blades; or whether it hardens more and binds the gaping veins, that the small showers or keen influence of the violent sun or penetrating cold of Boreas may not parch it up.

He, too, greatly benefits his lands who breaks the sluggish clods with harrows, and drags osier hurdles over them; * * and he also, who after the plain has been torn again, breaks through the land, that raises up its ridges, turning the plow across [cross plowing], and gives it frequent exercise, and rules his lands imperiously.

Pray, ye swains, for moist summers and serene winters. In winter's dust most joyful is the corn—joyful is the field. On no culture does Mysia so much pride herself, and even Garganes admires his own harvest.

What shall I say of him, who immediately after sowing the seed, presses on the lands, and levels the heaps of barren sand; then on the sown corn drives the stream and ductile rills? and when the field is scorched with raging heat, the herbs all dying, lo! from the brow of a hilly tract he decoys the torrent, which falling down the smooth rocks awakes the hoarse murmur, and with gurgling streams allays the thirsty lands?

What of him who, lest the stalk with overloaded ears bend to the ground, feeds down the luxuriance of the crop in the tender blade, when first the springing corn equals the furrows; and who drains from soaking sand the collected moisture of the marsh, chiefly when, in the changeable months, the swelling river overflows and overspreads all around with slimy mud, whence the hollow dikes sweat with tepid vapor. * * * * *

[Of course the implements of agriculture were rude affairs. Virgil thus describes some of them:] We must also describe what are the instruments used by the hardy swains, without which the crops could neither be sown nor spring. First, the share, and the heavy timber of the curved plow, and the slow rolling wains of the Eleusinian mother Ceres, and sledges and drags and harrows of unwieldy weight; besides the mean osier furniture of Celeus' arbuté hurdles, and the mystic fan of Bacchus; all which, with mindful care, you will provide long beforehand, if glory of a blissful country duly awaits thee. In the first place, in the woods, an elm, bent with vast force, is subdued into the plow tail and receives the form of the crooked plow. To this, at the lower end, are fitted—a beam, extended to eight feet, two earth boards and share beams with a double back. The light linden also is felled beforehand for the yoke, and the tall beech and the plow-staff, to turn the bottom of the carriage behind; and the smoke seasons the timber hung up in the chimneys.

I can recite to you many precepts of the ancients, unless you decline them, and think it not worth while to learn these trifling cares. The threshing-floor, chiefly, must be leveled with the huge roller, and wrought with the hand, and consolidated with binding chalk that weeds may not spring up, and that overpowered with drouth it may not chap. Then various pests baffle us; often the diminutive mouse has built its cell and made its granaries; or the moles, deprived of sight, have dug their lodges underground; and in the cavities has the toad been found and vermin which the earth produces in abundance; the weevil plunders vast heaps of grain, and the ant fearful of helpless old age.—Observe also when the almond shall clothe itself abundantly with blossom in the woods, and bend its fragrant boughs; if the rising fruit abound in like quantity, the corn will follow, and a great threshing with a great heat will ensue. But if the shady boughs abound with luxuriance of leaves, in vain the floor shall bruise the stalks, fertile only in chaff.

I have, indeed, seen many sowers artificially prepare their seeds, and steep them first in saltpetre and black lees of oil, that the produce might be larger in the fallaceous pods. And though, being hastened, they were soaked over a slow fire, selected long and proved with much labor, yet have I seen them degenerate unless human industry with the hand culled out the largest every year. Thus all things, by destiny, hasten to decay, and gliding away insensibly are driven backward: not otherwise than he who rows his skiff with much ado against the stream, if by chance he slackens his arms, and the tide hurries him headlong down the river.

FARMERS' TOOLS.—A certain number of tools and some skill in their use, will often save the farmer much time in sending for a mechanic, and some expense in paying him.

Every farmer should be able to make small repairs on his wagons, gates, buildings, &c.

A room, or a portion of a room, should be devoted to keeping these tools; a pin or nail should be inserted for each one to hang on, and the name of each tool written or painted under the pin, that it may be promptly returned to its place, and any missing one detected. Keep every tool in its place—do not wait for a more convenient season, but return every one to its pin the moment it is done with. If left out of place a minute, it will be likely to remain a week, and cause a loss of time in looking for it a hundred times greater than in replacing it promptly.

Keeping everything in its place is a habit, costing nothing when formed.

The tools should be, a hammer, saw, augers,

brace and bits, gimlets, screw driver, wrench, two planes, chisels, mallet, files and rasp, saw-set, trowel, and a box with compartments for different sized nails, screws, nuts, bolts, &c.—Common farm implements and tools, such as hoes, spades, shovels, forks, rakes, scythes, &c., may be in the same room, on the opposite side, and the same precautions taken to keep every one in its place.

SOME FACTS ABOUT CLOVER.

The value of clover is not so well known, and the importance of its more general cultivation so highly appreciated by our Western farmers as it should be. There are some facts, known to those who have had long experience in growing clover, that may be interesting to our readers.

The fact that any single farm crop, such as wheat, oats, barley, corn, flax, &c. cannot be grown to advantage on the same land for a succession of years, is generally understood by most farmers, notwithstanding their practice often runs counter to this knowledge. The effects of the repetition of one crop of clover after another on the same land for a series of years, is even more marked than that of any other crop with which we are acquainted, unless we except flax, which at the present day is not much grown.—Although clover is employed as a renovator of the soil, and is, perhaps, the best crop that can be grown for that purpose, yet its own effects upon the soil is so positive that it will refuse to grow after six or eight consecutive crops. Various causes have been suggested to explain this fact. We presume the true solution of the problem as it regards the diminution of any crop repeatedly grown on the same ground will explain the mystery in regard to clover. When wheat has been grown after wheat on the same land until it will no longer yield a paying crop, the general explanation as to the cause of this falling off is that the land is exhausted. This may be true in a certain sense. The soil, undoubtedly, has parted with a large proportion of certain essential ingredients indispensable to the continued growth of wheat, hence the necessity of a constant rotation of different crops, each of which draws from the soil different proportions of these essential ingredients, and during the rotation a partial restoration of these ingredients is made through the operation of natural laws. And if the farmer understands his interest, and does justice to himself and to posterity, in husbanding all the means within his reach for the manufacture of manure, and applies this in addition to the natural aids referred to, his land may be made to constantly increase in richness and fertility.

There are some facts connected with the growth of clover in its operation upon the soil which prevents a further growth, that are not clearly explained by similar facts which appear less mysterious in regard to wheat and other crops.

Mr. J. B. Lawes and Dr. J. H. Gilbert, of Rothamsted, England, have probably made more experiments in regard to the growth of certain crops, and in the application of every species of manure, together with every other possible form of experiment in regard to farming that is likely to prove of any value to mankind, than any other two individuals living, for they have devoted a lifetime to these experiments. The Journal of the Royal Agricultural Society of England, contains a report of their experiments on the growth of Red Clover by different manures, which have a bearing upon the subject under consideration.

From the numerous previous experiments of Mr. Lawes in regard to the application of different manures for the wheat crop, he had determined with a great degree of accuracy what quantity of certain kinds of manure was necessary to apply to an acre of wheat in order to insure a given quantity; of course within certain limits and with due allowance for disasters liable to befall the crop. If it was desired to grow twenty bushels of wheat per acre, he knew how much of the raw material (manure) to apply; if he chose to increase it to thirty bushels, the object was as easily attained, thus reducing the farm to the standard of a manufacturing establishment in which a certain amount of stock was to be employed to yield a given quantity of the required fabric. But in applying the same means to insure a continued growth of clover on the same land, Messrs. Lawes & Gilbert failed altogether.

These experiments have been in progress more than ten years. During the fourth and fifth years of their experiments they applied to one-third of a piece of land twenty tons per acre of farm-yard manure, previous to sowing the clover; to another third they applied an equal quantity of farm-yard manure, together with 5,000 pounds per acre of freshly burnt lime, and the remaining third they left unmanured. These several pieces of land, under the application of these various manures, entirely failed to produce a crop of clover. These experiments were continued for a number of years with about the same results. But when barley was sown upon this land in the midst of the experimenting, it gave a yield of fifty-eight bushels per acre, of fifty-two pounds per bushel, and with similar results when sown with other crops.

It is a fact well known to every intelligent farmer, that when a very small quantity of barn-yard manure or lime, or both combined, are applied to clover on land not clover sick, a large growth is the consequence. Land that has become so reduced by over-cropping as to be no longer productive, and will not even produce a crop of clover, if moderately manured and sown with clover, will produce quite a crop, and when turned under will grow a crop of grain—and repeated in clover may, under this treatment, be restored to a considerable degree of fertility before the land becomes tired of clover.

Various opinions are entertained in regard to the liability of clover to fail after repeated sowing. Some attribute it to the exhaustion of certain essential properties in the soil; others to the growth of parasitic plants which attach themselves to the plant and exhaust it of its juices; others to the injurious effects arising from the matter excreted by the roots of the previous crop, or to the decay of those roots.

Messrs. Lawes & Gilbert conclude their report with the following remarks:

"The practical conclusions from the inquiry may be very briefly stated:

"When land is not what is called clover sick, the crop of clover may frequently be increased by top dressings of manure containing potash and super-phosphate of lime; but the high price of salts of potash, and the uncertainty of the action of manures upon the crop, render the application of artificial manures for clover a practice of doubtful economy.

"When land is what is called clover sick, none of the ordinary manures, whether artificial or natural, can be relied upon to secure a crop.

"So far as our present knowledge goes, the only means of insuring a good crop of Red Clover is to allow some years to elapse before repeating the crop upon the same land."

A RAT-PROOF CORN HOUSE.—A correspondent of the *Ohio Cultivator* gives the following directions how to build one:

Get stone pillars for the foundation, one foot square and to stand 24 feet high, and for the top a piece of sheet iron 8 inches wider than the top of the stone, and paint it to prevent rusting. Then build your house the size to suit you. Mine is 20x26 feet; the door at the end, and a bin on each side to within four feet of the back end, which is for wheat and oats, and is divided by partitions. The wheat and oat bins hold 400 bushels each, corn bins 500, and there is room enough left, in which I have a work bench and fanning mill. The floor should be as high as the bottom of a wagon bed, which is easy for unloading, and if the ground is rising in front of the building, it is easy to back to the door.

[Written for the Valley Farmer.]
PHILOSOPHY FOR FARMERS.

BY DR. JOHN T. HODGEN, OF ST. LOUIS.

[Continued from June No.]

There is pumped up by the air from every part of our globe (taking a fair average), at least sixty inches of water annually; and it is raised on an average 900 perpendicular feet and transported 3,000 miles. It has been estimated that the air, in effecting this mighty labor, exerts a force equal to that of a steam engine of 452 horse power, working night and day, for every square mile of the earth's surface—or that it would require to accomplish by any foreign agency, what is now effected noiselessly by the winds on the whole earth's surface, a power equal to 90 billions, 880 millions horse power—or a power 12,982 times greater than that of all the steam engines in the world, even if they were kept working day and night from century to century.

Upon the whole surface of the earth precipitation and evaporation are precisely equal; whilst the water discharged by the rivers of any given locality, is the exact measure of the excess of precipitation over the evaporation of that locality.

The St. Lawrence with its mighty flood, measures day by day and hour by hour, the difference between the quantity of water falling into, and that evaporated from, the great basin of the Northern Lakes.

The Mississippi pours hourly into the great Southern Gulf the excesses from that immense valley which it drains—extending from the Alleghanies on the East, to the Rocky Mountains on the West, and from Her Majesty's dominions to the Southern extremity of Louisiana.

Thus we gain an idea of the immense force required to elevate not only the excess of precipitation over evaporation, but the absolute amount of water raised by the winds and transported to far distant regions.

It has been estimated that the river Niagara, as it flows from Erie to Ontario, falls with a force equal to twelve and a half million of horse power or nearly equal to twice that of all the steam engines in the world.

The average of evaporation from the tropical belt is equal to fifteen vertical feet annually.

This belt extends from the calms of the Crab to those of the Goat, or about 30° on each side of the Equator—or is 3,600 miles broad and 25,000 miles long—completely belting the earth; thus embracing an area of ninety millions of square miles, which would be a mass of water equaling in size, and almost in weight, the

whole State of Illinois, including loam, soil, trees, rocks, rivers, lakes, towns and rail-roads; to the depth of six miles:—and all this mass is literally pumped up by the winds and carried thousands of miles, once in every year, and again let fall, thus showering the world with innumerable blessings!

An idea of the force of heat in connection with air and water, may be gained from the fact, that the water elevated by the air, during its passage back to the ocean from whence it came, dissolves and wears the solid mountains and continents. The solid rocks are disintegrated, the mineral matters are dissolved; stones and masses of rock are loosened from hill-sides—even the very mountain peaks are undermined by the trickling water; and every fountain, every brook, every mountain torrent, and every river, transports these materials and gradually fills up the lakes, seas and oceans, building up immense deltas and islands. This everlasting round of waters, carried on by the air and gravitation, prepares the surface of the barren rocks to become the habitation of plants and animals.

The structure of the crust of our globe gives unmistakable evidence that in its early history it was a molten mass. When the surface cooled, it was composed of nothing but rocks and water—a dead, barren mass, studded with volcanoes. Geology teaches that at this time no plant or animal existed upon the globe. It was necessary that the solid, barren rock should be disintegrated, the inequalities of the surface filled up, and the crust of the earth covered by a loose, pulverized soil, suitable for the habitation of plants and animals. This was accomplished under the action of the air and water; with the same alternations of heat and cold which at the present day preserves the purity of the ocean and the atmosphere; waters the thirsty earth, and supplies the most important of the elements necessary to the structure of plants and animals, and clothes the earth's surface with a luxuriant vegetation; also furnishing materials for the maintenance of animals, from the simple animalcule to the complicated organism of man.

To the superficial observer, the angry strife between the forces of heat and gravitation; the blazing volcanoes, belching forth burning lava, and deluging fertile valleys and plains with a fiery flood; the earthquakes rocking the globe, fracturing and rolling up its strata, heaving up immense continents from the ocean's bed, removing the pillars of broad tracts of land, and plunging them into the earth's fiery bosom—

would appear to be under the guidance of only blind, mad fate. It is true, however, that this angry strife is under the guidance of an Intelligence that brings unity out of diversity and discord—harmony and order out of contending forces and elements—life and fertility out of fire and destruction.

Every earthquake that has fractured and dislocated the solid strata of the earth's surface, elevated the ocean's bed, or depressed the level of continents—every volcano that has poured forth the liquid, fiery contents of the earth's interior, and every flood which has swept over the ancient continents: have all contributed to the production of a soil, and an atmosphere for the maintenance of plants and animals, and the development of the human race.

The same water that is borne on the wings of the wind, and falls far distant from its place of ascent, carrying with it the carbonic acid, the ammonia, and the nitric acid, which it has gathered from the great atmospheric reservoir (materials from which are built the gigantic oak of an hundred years, or the tiny flower of one bright day), seeks the deeper parts of the earth, and dwells for a time amid the tombs of by-gone generations of animals and plants; disintegrating shells and rocks, and dissolving the bi-carbonate and phosphate of lime, magnesia, soda and potash, that once formed parts of living beings—and then rushes with them, in solution, headlong into the great ocean.

The water is again evaporated, while the salts are molded by the nautilus into his many-chambered shell—painted and polished, and made the sole object of his care through his whole life—whether he be quietly resting in the dark cavernous depths of old ocean, floating midway in his green waters, or sailing joyously on his placid surface, basking in the bright sun-light.

The coral insect busies itself in building the foundations of the earth from the salts of the sea. Beginning at the bottom, she builds a structure that is not only the foundation of an unborn island, but is a home for the busy workmen that occupy its myriads of chambers. She paints it in the ocean's brightest hue, and builds in grotesque forms, up to the sun-kissed surface, the foundations of the home of uncreated races of air-breathing animals.

The lobster, the clam, and the oyster, are indebted to lime and magnesia obtained from sea water, for protection against the thousand mouths that are ever open to swallow every unprotected creature.

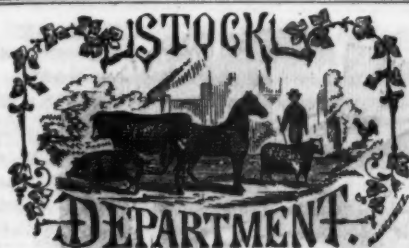
Water, in passing from the liquid to the gas-

eous state, absorbs a thousand degrees of caloric (heat), and in the reverse change sets free the caloric absorbed in the process of becoming gaseous. So that every atom of that sheet of water 15 feet in thickness, and occupying an area of 90 millions of square miles, conveys from the region of vertical suns, toward that which is reached but once a year by the sun's most oblique ray, one thousand degrees of caloric:—thus carrying the excess of heat from a region where it is not needed, to that one otherwise bound eternally in the icy embrace of winter. Making habitable by evaporation a region otherwise heated beyond the capacity of plants or animals to endure, and by condensation thawing out for a part of each year, the very secret haunts of old Boreas, bidding him breathe not so coldly on the bright children of a more sunny clime.

If we trace the tropical belt, we will find more than five-sixths of it belonging to the domain of Neptune, thus furnishing the best possible arrangement for evaporation; and this extensive surface is not simply in contact with its airy mantle, but it is constantly swept by dry and thirsty winds that drink to repletion, and pass on giving place to others, alike dry.

But for the winds, international commerce must stand still. Every ship that spreads its broad wings to the breeze, is dependent for its very existence on the moving air that bears it safely to its destined harbor. Every yard of canvas, thus stretched, is an acknowledgement of its power for good. Whilst every sunken ship, with its mighty hull, its once towering but now broken masts, its once bellying but now flaccid sails, its mazy network of cords and lines, its slimy, slippery deck, upon which are now rapidly accumulating the debris of decomposing, once animate forms of aquatic life, and here, and there, in its once luxurious state-rooms and cabins the fragments of decomposing human carcasses—speak in tones that may not be mistaken, of its power to wreck and destroy.

The broad and mirror-like surface of the ocean may form a smooth and tranquil couch for the sleeping wind; or, fanned by its restless, fitful motion, it may reflect a thousand images of each of the tiny perforations in the great blue vault of the midnight heavens; or, lashed to fury by its angry surges, the waves, with the winds, may conspire for universal havoc.



FAT SOWS.

ED. VALLEY FARMER:—I saw a piece in the *Valley Farmer* in regard to fat breeding sows, which I think is calculated to do harm to young farmers. From my limited experience, I am convinced that the improved sow can be kept too fat for breeding purposes. I will admit that it would be a hard matter to keep scrubs too fat, but I know that the Chester White will become too fat if fed too liberally. In fact they are so inclined with ordinary feed.

Last fall I concluded not to turn my sows with the boar so as to have the pigs in the winter, as I do not think they pay; but I was forced to do so as I found my sows getting too fat. One of my oldest sows has taken the boar five times and still not with pig, another had two pigs whilst another had only three—all from being too fat; and I am now forced to starve several of my sows so as to get them to breed.

I tried making sheds out of seed-hemp stalks as protections for my hogs last fall, costing only a little labor, which convinced me that I never put labor to a better advantage; as those hogs kept fat on the same feed that the rest kept poor on, which were not protected by sheds.

I have seen an article going the rounds, that black hogs do not have the mange. Why, sir, the worst manged hogs I ever saw, were a lot of black hogs. There is as much truth in that notion as there is in the old saying that mules never die from diseases. After two years' experience with Chester White hogs, I am convinced that they are the best I ever saw, if you take size, constitution and fattening qualities from a pig up. A friend came to me and advised me to cross them with some other breed—that they got too fat. They are certainly the hog for this country. G. MASON BROWN.

Saline Co. Mo.

REMARKS.—We are not in favor of having sows fat at the time of conception. Sows should be kept especially for breeding purposes, and they will almost invariably take the boar within a week from the time the litter of pigs is weaned. The sows, then, are always reduced in flesh—not too fat to conceive. We think that it is not advisable, but highly detrimental to have sows very fat at the time of conception; but after conceiving we favor good care and attention, and recommend feeding the sows well and getting them in fine condition.

We are aware that many think this a wrong practice; but our experience has demonstrated it to be the best course. If the sow is fleshy when she has her litter, she is in a fine condition to nourish her progeny, and she parts with her "fat." The pigs get it. She has resources in her own body for the nourishment of her young. You may feed her ever so highly, and if she has a large litter she will grow poor—the pigs all the while thriving and growing fat.

We have had pigs from sows of the same size—one sow fat and the other poor—treated alike after the birth of the pigs, and with large litters, and we have invariably found that the fleshy sow raised much finer pigs than the sow in poor flesh.

But we recommend that the sow receive the boar immediately after the pigs are weaned, and while she is thin in flesh; then feed her well again, and so continue. But, of course, if pigs are brought forth in the winter, the sow should be provided with comfortable and appropriate quarters.

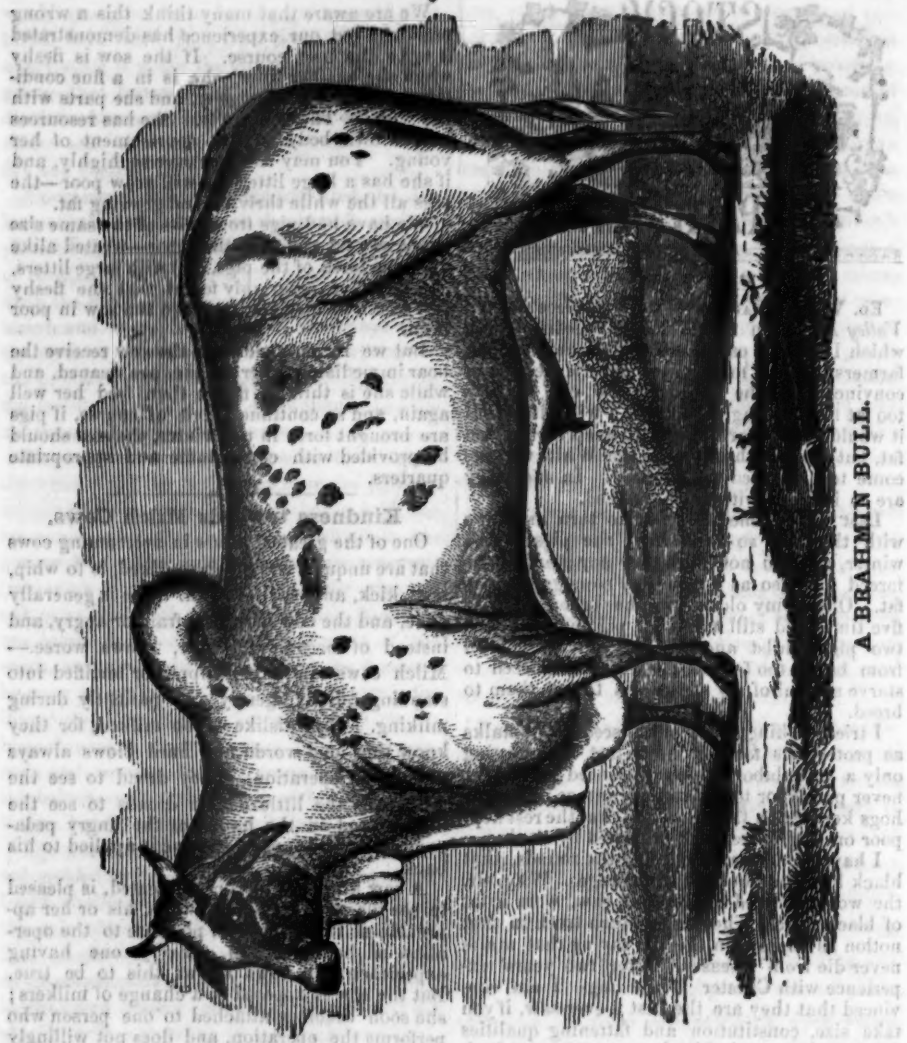
Kindness towards Milch Cows.

One of the greatest errors in overcoming cows that are unquiet while being milked, is to whip, beat, kick, and bawl at them. This is generally done, and the cow becomes afraid or angry, and instead of becoming better, grows worse.—Milch cows cannot be whipped or terrified into standing quietly, gently and patiently during milking. They dislike to be milked, for they know that loud words and hard blows always attend the operation. They dread to see the milker as the little urchin dreads to see the birchen rod in the hands of the angry pedagogue when he expects to have it applied to his back.

A cow kindly and properly treated, is pleased to see the milker, gladly awaits his or her approach, and submits with pleasure to the operation of being milked. Every one having experience with cows knows this to be true. But the cow is opposed to a change of milkers; she soon becomes attached to one person who performs the operation, and does not willingly and freely give down her milk to another person: therefore, have one regular milker to certain cows, and bear in mind if you change milkers it is at the expense of a loss of milk and of injury to the cow.

All animals appreciate kind treatment, and resent abusive treatment. It is their nature or instinct to do this. Therefore, if you would have them gentle and quiet, treat them gently and kindly. See that those who milk them can control themselves, govern their passions, speak low and kindly under almost any provocation, and soon the cows will learn that they are not going to be abused and will submit to the operation.

Milking should be performed at regular hours, not varying fifteen minutes one day from the other. No talking or laughing should be permitted at the time, and it should be done as speedily as possible.



A BRAHMIN BULL.

BRAHMIN CATTLE.

Chas. G. McHatton, of Bridgeton, St. Louis Co., Mo., is a large breeder of these animals. His herd is well worth visiting. The animals possess a very fine skin and exhibit a very neat appearance. He says:

The following specifications embody the chief advantages claimed for the stock, and clearly show that they cannot but prove an invaluable accession to the working animals of the South:

1. They are of fine size and beautiful proportion, and possess wonderful activity, strength, and power of endurance.
2. They are perfectly adapted, by their peculiar organization, to the climate of the South, as they endure in their native country greater

heat and fatigue than they would here ever experience.

3. Their milking qualities are equal to the best of Southern stock.

4. They are thrifty, and keep fat on scanty pasturage; and their beef is equal to that of any other stock, having been tested, in Lexington, Ky., by many of the most respectable citizens.

5. They have been fully tested in the South, and the most sanguine expectations realized. Out of 150 sold, only one is known to have been lost, and that through accident.

They were first imported from the East Indies by Dr. James B. Davis, of South Carolina, whose observation of their superior excellence at home, induced him to make the attempt to introduce them into the United States.

Martin in his celebrated work on cattle thus describes the Brahmin Ox, page 22:

"The large Zebu, or Brahmin Bull, is certainly a noble animal, and much more active than any of our breeds. These animals are used in India as beasts of draught and burden, and also for the saddle. We learn that Lieut. Col. Skinner, of Danak, on the borders of the Bichaneer desert, 100 miles west of Delhi, maintains a large stock of them; and six or seven beasts are always kept saddled to carry the military dispatches. They remain saddled three or four hours, when, if not wanted, they are relieved by fresh ones. They will travel, with a soldier on their back, fifteen or sixteen hours in the day, at the rate of six miles an hour. Their action is fine, and they bring their hind legs under them in as straight a line as a horse. Such is their activity that they can clear a five-barred gate with ease."

Thervenot says, (Relation, vol. iii. p. 151.) "As the Oxen of India are by no means ungovernable, there are many persons who employ them in traveling, and who mount them as they do horses. Their ordinary gait is easy. The animal is saddled like a horse, and when a little excited into action it goes very quickly; some, indeed, gallop as well as a good horse. These cattle are in general use throughout the whole of India, and they use no other in plows, coaches, and chariots."

"The two oxen," says Travenier, "which were harnessed to my carriage, cost me nearly 600 rupees. The reader need not be astonished at this price, for these are oxen of great strength, and which travel journeys of 12 to 15 leagues a day, for 60 days, and always on the trot."

Lowe, in his work on Domestic Animals, page 261, thus speaks of the Brahmin Ox:

"The accumulation of fatty matter on the shoulder of the ox, may not unreasonably be regarded as a natural provision fitting him for countries of immense heat. The hump of the camel seems to be a similar provision for the accumulation of nutrient matter, and may be supposed to be connected with the extraordinary patience under abstinence from food, which distinguishes this child of the desert. The fatty hump of the ox of warmer countries may thus be regarded as an adaptation of the animal to the condition in which it is placed."

The chief advantages of the Brahmin Cattle, consist in their speed and strength, in both of which they surpass any of our breeds, and their adaptation to a Southern climate.

CHAS. G. MCHATTON.

TO CURE THE BLOAT IN CATTLE.—Take a stick about the size of a large rolling pin, or about two inches in diameter, and after fastening a string at each end, put it in the animal's mouth and tie it with the strings around its head, so that the stick will act like a bit, and keep the mouth open. In a very short time, the bloat arising from eating too much wet clover, will abate gradually; and where the choking arises from a potato or piece of turnip, it will work itself either up or down, when the mouth is thus kept open.

HORSES—DIRECTIONS TO PURCHASERS.

Of course every man wishes for a sound horse, without defect in wind, limb or sight. The various imperfections which occur in each of these are here enumerated:

THE EYES.—When the animal about to be purchased is at the stable door, before he is brought out, examine his eyes; the light coming upon them in that situation will enable you to discover any defect that may exist. Remember that both eyes must be in an equal degree of light; and, regarding this, observe that there is no difference in the eyes, for if they be not alike one must be diseased. If both eyes be clear, and hazel round the pupil, and the pupil itself be blue, and free from any white specks—if it contract in the light and dilate when in the shade, you may conclude the eyes are good. If the eyes be blue round the pupil, or the pupil itself be in the least degree affected with external specks, or deep seated pearly whiteness, termed cataract; if it do not diminish or enlarge, as the light is more or less upon it—in all these cases it is a defective eye. All weeping, cloudy, dull-looking eyes are unsound; and if there be the least appearance in any way of disease in this very important organ, reject the animal. Imperfect vision is often the primary cause of shying.

THE AGE.—Next examine the mouth to ascertain the age.

Yearlings and two-year-olds are alike in mouth, and must be judged by general appearance. At three years old, the horse has four *horse-teeth*, two above and two below, in front of the mouth, which supply the place of the sucking-teeth. At four, he has eight horse-teeth, four above and four below, the corner being only sucking teeth. At five years old these are gone, and the *mouth is up*, at least, with the exception of the *inside* of the backmost, which, especially in mares, sometimes do not rise until the sixth year; that is, all the teeth are horse-teeth, and the tusk is up on each side of the mouth. A dark mark, or hollow, is generally observable in all the teeth of the bottom jaw at five years old; and the tusks are concave in their inner surface. At six, the two middle teeth have quite lost their mark, and the tusk is higher up, and longer, and not so concave. At seven, the next two teeth have lost it, and the corner teeth only have the mark left in them. At eight, it has grown out of these, and no mark is left at all. The tusks also become longer, and instead of being concave in their inner surface, become convex; the horse is then termed aged. There is, however, a great deal of difference in the mouths; some have lost their mark in all except the corner teeth, even as early as five years old; others have their front teeth in the top jaw, projecting over the bottom teeth at the same age. You may form some idea of the age from the appearance of the mouth in general, when the marks are no longer visible. If the corner teeth do not appear long and running forward, as it were, to the front of the mouth; if they retain their square shape, and shut well together; if the

tusks are blunt, and have the least concavity in their inner surface, you may conclude that the horse is not very old, particularly, if his head be not grey, and not very hollow above the eyes; though this latter shape sometimes exists in young horses. A concave tusk is the most certain criterion of youth; and as mares have no tusk at all, they must be judged with reference to what I have said about the corner teeth, except in some cases of what are called "shell teeth," from their resemblance to the plate-like cakes of shells, and horses with these preserve the appearance of youth till ten or twelve years old. It is here proper to mention, that the difficulty of acquiring accurate knowledge of the age of horses by their teeth is very much increased by the tricks that are practised.

It is generally allowed that no horse is fit for work until at least five years old; and it is a common custom with great breeders in the north of England, and with many dealers, to pull out the sucking teeth when the animal is rising to four years old; the mouth is forced by these means, for the horse-teeth succeeding soon after the operation, the animal appears to be a five-year-old. To detect such deception, regard must be paid to the tusk. Every horse upon attaining the full age of five, has the tusk completely up on each side of the mouth; but in forced five-year-old mouths, the tusk is only just making its way through the gums. There frequently exists also in the latter an irregularity in the front teeth, as well as backwardness in the growth of the tusk. Forced mouths vary in their appearance according to the time of performing the operation; and the habit of observing horses' mouths will alone enable you to ascertain where any artifice has been practiced.

THE JUGULAR VEIN—Mark that both jugular veins are perfect, and that a free circulation through them exists; as there are horses which, from having been unskillfully bled, and from subsequent inflammation, have lost the vein—a defect of some consequence.

THE POSITION—When a horse is brought out, allow him to be placed with his fore-legs up hill—because if his joints be at all bent over, or his legs shaken, you will best discover it in such a position. Whenever the animal is placed with his fore-legs in a gutter or down hill; or whenever the person showing him is continually pulling at the bit to make him shift his legs, that he may stand advantageously, be sure that his joints are impaired and that he cannot stand firmly.

KNEES—As the horse stands, examine his knees, and ascertain that no marks exist in front of them. These marks are generally the symptoms of having been down, and even were they occasioned by other means than falling, the blemish is the same, and almost equally detracts from his value. Next look inside of the leg just under the knee, and if any scars be visible, or the hair stick up, you may conclude that he cuts in his speedy or fast places. Mark well that a similar scar does not exist at the ankle, or hair appear brushed; for such marks are solely produced by the act of cutting, which, as

before observed, is generally a natural, and therefore incurable defect in action.

THE LEGS—Take notice that the legs be not tottering, and inclining forward, either at the knee or at the ankle; and that the ankle joints be large in front. The back sinews, also, should not appear bowed out behind, nor feel thick—the symptoms of their having sustained some injury. The legs should be flat, and not round; neither should they be soft and puffy, but wiry and hard. Both legs should be alike, for if one be larger than the other, it is an injured leg.—Never buy a horse for a sound one with a big leg, even though he be warranted. You need not mind a splent, or a bony excrescence on the shank, unless it be so situated as to interfere with the suspensory ligament, or project so much as to hit the other leg in going. Ring-bones, or enlargements on the pasterns and coronet, are easily perceived from a difference in the two legs; as it rarely occurs even when both legs are affected, that they are affected equally. Incipient ringbones will sometimes produce lameness, even before they are very observable.

THE FEET—Be particularly attentive to the feet; for, according to the old saying—no foot, no horse. First of all, observe that one foot should not be less than the other; and that they should not be indented, or hollow round the crust. The crust itself should not be brittle, and broken where the nails have been driven; nor should there exist in it any circular cracks, nor longitudinal fissures from the coronet downward, which last are termed sand-cracks. The heels should not be drawn together, and contracted; nor should the frog be small and ragged, nor discharge fetid matter, which is a disease called a thrush. The horn at the heels should be as high as the frog; for if lower, the heels will be liable to corns; and the sole should neither be flat nor convex. It is obvious no horse can continue sound with those imperfections in the feet; and it frequently happens that horses with very finely formed feet, are very lame from a hidden cause within the hoof. Some veterinary surgeons consider such description of foot lameness hereditary. Lameness in the feet (often erroneously taken for and called lameness in the shoulder) frequently proceeds from a slight strain in the back tendon, which, on inflammation falling down to the sensible sole, produces navicular disease, only curable by an operation, and which fortunately is a simple one, in really scientific hands, seldom failing to give relief. If the legs and feet be smooth, you may imagine that all is right in the forepart of the horse.

THE HOCKS—Next examine the hocks; observe that, as you stand on either side of them, there be no projection at the back of the joint, called a curb; and as you stand behind them, that the inside of the joint down below be free from little knots, or bony excrescences, which are called bone-spavins; and on looking at them in a slanting direction, that there be no tumor above, or blood-spavin. Look down between the horse's fore-legs for these defects, as it frequently happens that they are better seen

from that view. An enlargement of the cap of the hock does not often cause lameness, though it is a blemish; but enlargements on each side of it, which upon pressure fluctuate from the inside of the joint to the outside, are termed thorough pins, which are in fact wind-galls, and often cause very obstinate lameness.

THE HIPS—Look that both hips be of the same height, as horses are met with having the defect termed down of a hip.

SHOWING—Having thus examined the horse as he stands, let him run down slowly on a rough or stony declivity, at the end of a halter, without any support to his head, or any whip near him. If he go boldly, with his knees bent, and his foot flat and firm to the ground, without dropping his head, you may conclude that he is sound before; and if on running him up hill, he go with his hocks regularly together, and not dragging the toe, nor drooping from the hip, you may buy him as free from lameness. If he go pattering on the toe, and feeting, let him not be bought for a sound one.

HOW A HORSE SHOULD BE SHOWN—Always have the horse you are about to purchase shown quietly; because, when he is agitated, a slight lameness may escape your observation; and always see him ridden, that you may judge how he wears himself, and how he uses his legs and feet; for many horses are pleasant to ride, that are unpleasant to look at when ridden; and dealers never fail to put you immediately on their backs, when their riding is pleasanter in the feel than in the appearance. Besides, when you see him ridden, whatever pace the horse is continually kept in, that pace is the best; and whatever he is hurried out of he cannot do at all, or be well assured that no opportunity would be lost of exhibiting it.

LAMENESS—How discovered—Take notice, that in examining a horse for lameness, you may often detect it by only looking at his ears; for all horses that are lame before, drop their heads when they throw their weight on to the sound leg; and those that are lame behind, throw their heads up when the sound leg comes to the ground.

FENCING—Whenever a horse stands in the stable fencing, that is with a foot out under the manger, it is a sign that something exists uneasy to him, and may give you just reason to suspect unsoundness.

STRING-HALT—String-halt, or a singularly high notion, or twitching up of the hind legs, is to glaring to escape observation; it does not constitute unsoundness, though it lessens a horse's value. Bone-spavins not unfrequently occasion a similar method of going. But there are no horses with this affection thoroughly bad.

WIND—With regard to wind, some horses naturally possess greater freedom of breathing than others; for instance, a horse with large, open nostrils, a wide gullet, a short neck, and a deep, wide chest, has generally superior wind to one with the contrary shape. There are two kinds of disease injurious to the wind; one is an affection of the wind-pipe, which creates whistling and roaring; the other an affection of the lungs, which produces broken wind.

The usual way to discover the first of these imperfections, is to go up to the animal in the stall, and taking fast hold of his head, flourish a stick about him suddenly, or strike him. If he groan, he is a roarer. But this method will not detect a mere whistler; the surest way, therefore, is to gallop the horse with a bridle tightly curbed, and at the same time agitate him as much as possible. If he make a wheezing noise, or blow with the same kind of sound as is produced by blowing upon a knife placed before one's mouth, he is not sound in his wind. The state of the wind is sometimes ascertained, and with great accuracy, by the sound of the cough, and in the following manner: Grasp the wind-pipe at the throat tightly, and then immediately let go the hold; the horse is sure to cough. If he cough bullily, that is if the cough sounds like the lowing of a bull, the disease I just mentioned is in existence. But this cannot be often done with the same horse, or it would produce the very disease in question, and is, indeed, a method so delicate and difficult as not to be tried without express permission of the owner, nor with it if you possess any claim to humanity. If he cough short and hacking, the lungs are affected, and he is broken-winded; but if the cough be long and shrill, the wind is good. Be careful to leave hold of the wind-pipe the moment you have compressed it; for if you hold it long, the horse will cough shrill even if he have imperfect wind.

Always gallop a horse as well as make him cough; a horse with the roaring or the short cough, should be immediately rejected.

By making a horse cough, another advantage arises, viz: that you may discover if he be affected with a cold; in which case upon compressing the wind-pipe, he will cough repeatedly.

INJURIOUS HABITS—Crib-biting is a bad habit to which many horses are addicted. It consists in taking hold of the manger, and at the same time drawing in the breath with a gulping noise. The effect of it is loss of flesh and condition in the animal, and sometimes injury of the wind. It is cured by a little salt, when it proceeds, nine cases out of ten, from acid in the stomach.

Wind-sucking is nearly the same, only without taking hold of the manger. It is caused by the animal's desire to cool his interior, and a little salt in his oats, by removing the cause, often allows the habit to drop.

As these habits are not always discoverable during the short time you are in a dealer's stable, it is advisable to have the horse you are about to purchase warranted free from these defects, in addition to the warranty of soundness, as the latter does not provide against them.

It is also prudent to have the horse warranted free from restiveness; though you may discover this by riding him several times past his own stable door; if he be restive, he will manifest his self-will by endeavoring to turn in, and in rearing if you endeavor to prevent him.

INJURIES OF THE BACK—Injuries of the back, which are not unfrequent, are discovered by backing the animal; and if he perform the re-

trograde motion with the least degree of difficulty, he has experienced some serious dorsal injury.

There are other imperfections which need not be mentioned, as none but the lowest description of persons would keep for sale horses possessing them.—[*Horse Tamer.*]

The Hog and his Diseases.

Mortifying as the fact may be to human pride, it is nevertheless certain that in their internal organs and general structure, the hog and bear more closely resemble man, than any other animal. Most of their diseases, as might be expected, closely resemble those of the human species and require similar treatment.

The diseases of swine, though not very numerous, are very dangerous, and soon run their course. The diseases of this animal have, from some cause, received much less attention, and therefore the remedies are more the result of experience than of science.

Bleeding is a remedy for most of the diseases to which the hog is liable. Yet how many of our farmers ever saw a pig bled for medical purposes?

One of the best places that I can find for bleeding a hog, is in the roof of the mouth. I have seen them bled from an artery inside of the fore-arm, just above the knee. My objection to the latter method is that I have always found it more difficult to stop the flow of blood in the artery than from the roof of the mouth. My usual method is to apply a cloth well saturated with cold water.

One of the most dangerous diseases to which swine are liable, is one which I have always heard termed *Blind Staggers*. The first symptoms is a manifest uneasiness on the part of the pig; he will lay down for a minute or so and then get up; walk about for a short time and then lay down again. This will sometimes continue for eighteen or twenty hours. I know of but one instance where it lasted more than twenty-four hours. After a short time the disease becomes more violent, the animal rears on its hind legs, foams at the mouth, grinds its teeth, and is to all appearances blind. Bleeding; if resorted to early in the disease, followed up with a light dose of castor oil or epsom salts, will give relief.

Another disease, which is often fatal, is the *Kidney Worm*; the first symptom is a weakness of the loins and hind legs, and if not checked is followed by a general prostration of the whole body. As soon as the first symptoms appear, copperas given at the rate of $\frac{1}{4}$ to $\frac{1}{2}$ tablespoon-full daily for one or two weeks will generally effect a cure. Spirits of turpentine rubbed on the loins, is very good.

The *Itch* (otherwise known as the "mange") is another of the most common of the diseases to which the hog is liable; it is not dangerous, but a "mangy" hog will not thrive. Soap suds, well applied with a good, stiff scrubbing brush, is a remedy; a running stream to wallow in, or plenty of clean wheat straw, will effect a cure in time.

For coughs and inflammation of the lungs, bleeding should be resorted to, followed with light doses of some purgative medicine and one, or half (according to size,) drachm of nitre.

A good warm bed, with plenty of straw, is a preventive for all the diseases to which a pig is liable.

I have always found it economical to provide my pigs with a patch of clover to roam during the summer; if there is a running stream in it, so much the better; but because you provide the pasture do not stint them on their feed. I think it is a great mistake to starve a pig through the summer, and then cram the corn into him for two or two and a half months in the fall. I believe "it pays" to fatten a pig gradually.

I have always been in the way of feeding my corn, ground; I have two hogsheads which are filled alternately with meal, slop from the kitchen, and water. One of the tubs is filled and allowed to sour, while the other is being fed.—This souring is a more particular point than some may imagine. When viewed in a chemical light it has five stages—1st, the saccharine, by which the gum of the vegetables is converted into sugar; 2d, the vinous, which changes the sugar into alcohol; 3d, the mucilaginous, which sometimes takes the place of the vinous, and changes it into a slimy, glistilaginous product; 4th, the acetic, which changes the alcohol into vinegar; 5th, the putrefactive, which destroys all the nutritive principles and changes it into a poison.

The precise point of fermentation, at which the food becomes most profitable, I have never been able to ascertain practically; but speaking theoretically, I should say that it was between the vinous and the putrefactive.

Yours, &c., SPIKE HARROW, Esq.

—[*Ger. Telegraph.*]

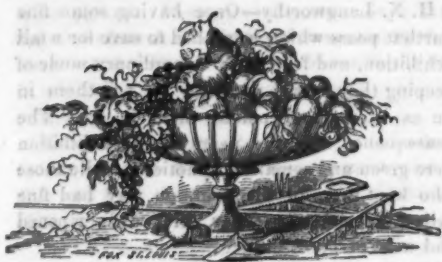
Chester White Hogs.

The *American Agriculturist*, in reply to a correspondent about this breed of hogs, says:

This breed of swine is as distinct as the Suffolks, Berkshires, or other varieties. The marked points are, white hair, thin skin, length and depth of carcass, small offal, and ease of fattening. These characteristics have become confirmed in this race by great care in breeding for more than twenty years past. They originated in a pair of Bedfordshire hogs which were crossed upon the best of native stock obtainable by their owner, Paschall Morris. Their reputation is now fully established.

DISTEMPER IN DOGS.—Eds. Valley Farmer: Believing you to be a friend to dogs, and willing to relieve them from disease, will you give me a recipe for the dog distemper. A FRIEND TO CANINES.

REPLY.—We are a true friend to a good dog that knows its place. But a sheep-killing dog has no worse enemy than itself. The distemper is difficult to overcome. We have administered with success arsenic, as follows: 1st day give 1 grain; 2d day give 2 grains; 3d day 3 grains. If any of our readers know of a better remedy we shall be glad to publish it.



HORTICULTURAL.

Fruit Growers' Society of Western New York.

[Continued from June No.]

We continue our extracts from the discussions at the late meeting of the Fruit Growers of Western New York, as they embody information from the most experienced and successful cultivators of fruit in the country, which will prove most valuable and important to our readers in the Great Valley of the West.

GATHERING AND PACKING FRUIT.

The best mode of gathering, packing and transporting pears to market.

Dr. Sylvester, of Lyons—Never gather fruit until it is well matured. Pick by hand and carefully place the specimens in peach baskets. Take them to the fruit room and allow them to sweat for a week or more, then pack in half barrels. Arrange carefully in packing and shake down frequently. Put in only a few at a time and shake down often. After the barrel is full, press on the head pretty hard, so as to bruise those on top. This is necessary to keep the fruit from shaking about and becoming injured on the way to market. Keep pears until they will be nearly ripe when they reach the market, otherwise they will not bring as good a price. In assorting make three classes. In this way the two best will bring more than all would if sold together. Put nothing in the head or the bottom of the barrel; but sometimes, if very ripe, wrap each fruit in paper.

In answer as to the proper time for picking, P. Barry replied that—It will not do to allow summer pears to remain on the tree until the seeds are colored, or they will be worthless. When summer pears are fit to pick, the seeds are soft and light colored. The seeds of pears house-ripened seldom become dark colored. If ripened on the trees, the seeds ripen at the expense of the flavor. Winter pears should be allowed to remain on the trees until frost, if the leaves hang on; but the pears should be pick-

ed as soon as the leaves fall, or they lose flavor. About the 20th of October is the usual time for picking winter pears in this section. Pick by hand and pack in small boxes or half barrels. Pears ripen quicker and do not keep so well if stored in large masses. After packing put the boxes in a cool place on the north side of a building, where they may remain until very hard frost. We put the boxes in a barn and cover with straw and leaves until the thermometer gets down to about zero; then put in a cool cellar. In packing, care should be taken to put the ripest or most matured specimens by themselves, and those less mature alone, so that all specimens in a barrel will ripen about the same time.

Mr. B. spoke of the difficulty and danger of attempting to send winter pears to market in the winter on account of frost. He thought they must be sent to market in the fall, like winter apples. As soon as they become so plenty as to make it an object, fruiterers in large cities will prepare rooms for ripening and give all necessary attention to the process. Much has been said about ripening pears at a high temperature. This is not necessary. If the fruit was matured on the tree they would ripen in the cellar. Every good winter pear will do so. Packing of autumn pears is an important matter. Many sent from Western New York last season were found spoiled when they reached the Eastern market. We should be careful in selecting as to ripeness. One over-ripe and rotten specimen will injure many. If one or two specimens are spotted with fungus, it will spread and spoil a barrel. All defective fruits should be discarded. Fruit for a distant market should be put up in small packages. Barrels or boxes should be clean and dry, and means of escape afforded for any gases generated; and the speediest means of conveyance should be selected.

H. E. Hooker, of Rochester, stated, that last season he let the Glout Morceau sweat a few days, then put them in barrels on the first day of November, boring holes in the heads. Placed the barrels on the north side of a building, where they remained until early in December. They were put in the cellar on the 15th of December, and are now used from the barrel just as winter apples. To see whether a high temperature would improve them, several times took some into a warm room, and all agreed that those from the cellar were best. Think all fruits when put up in small packages retain their flavor better than when a few specimens only are put together. They retain their aroma

better. Like to keep apples and pears out of the cellar in the fall as long as possible.

Mr. Jacobs—Dealt largely in fruit and had considerable experience in shipping. The great error made by fruit-growers, is in packing in too large packages; and another in neglecting to assort their fruit. A few poor specimens give the fruit a bad look and a bad name. Barrels for early apples should be ventilated, but it is not necessary for winter apples. Half barrels are best for pears—and the crates, sometimes used for peaches, the worst possible contrivance, as the slats cut and bruise the fruit.

KEEPING FRUIT.

The best method of preserving fruits, so as in every way to prolong the period of consumption.

Hugh T. Brooks, of Wyoming, considered this subject a very important one. In the country the people had got the idea that they cannot avoid losing a large portion of their fruit. One-third at least of the fruit put into cellars come out in a damaged condition. Cellars differ very much in their keeping qualities, and we hardly know why. Is dryness, evenness of temperature, or coolness needed? A friend, Judge Taggart, had a dry cellar, and the apples shriveled. He put them in his garret and they kept well. Some think a garret preferable to a cellar for preserving fruit.

Mr. Sharp, of Lockport, presented specimens of Louise Bonne de Jersey, Bartlett, and other pears (January 8th), which he had kept as they were picked, without ripening in a cellar, by some process which he did not disclose.

C. P. Bissell thought this a very important question because of the advantages possessed by winter maturing fruits, and by fruits which can easily be kept—even preserved fruits, sweetmeats and dried fruits. They are better for the health, save trouble and cost of putting up, and are much more pleasant to the taste. Families have usually depended upon sweetmeats from January until strawberry time, and if by any means we can preserve fruit in the natural state, during a good portion of this time, the difference in doctor's bills would soon be apparent. Notice should be taken of the keeping qualities of grapes. Hardiness, productiveness, &c., are qualities sought in the grape; but we pay little attention to its keeping qualities, which is an important matter.

Mr. Sharp agreed with those who considered this question a very important one. He had laid upon the table specimens of autumn ripening pears which had thus far been kept undecayed, and he hoped the winter fruits could be kept until summer.

H. N. Langworthy—Once having some fine Bartlett pears which he wished to save for a fall exhibition, and fearing by the ordinary mode of keeping they would not last, he put them in tin canisters, and placed them in ice. The consequence was the pears at the exhibition were green and remained unnoticed, while those who kept them in the common way had fine yellow specimens. They afterwards ripened and were of good flavor.

W. P. Townsend, of Lockport—Had put Bartlett pears in baskets in the ice-house, and kept them for a long time, but found on exposure to the air they became discolored and never acquired their natural flavor.

P. Barry—A fruit after arriving at full growth, or what is called maturity, should progress slowly and steadily towards perfection. If the ripening process is entirely suspended for a long time, the living principle seems to be destroyed and never can be restored. It is then like dead matter—like a stick—that may dry up and rot, but will never make any steps towards ripening. Mr. Brooks had mentioned the proper conditions for a good fruit-room—coolness, dryness and evenness of temperature. In England, it is found impossible to keep fruit in cellars.

Mr. Townsend—On three occasions had tried to preserve pears in Schooley's preservative. They could be kept a very long time, but never afterwards had any flavor.

W. B. Smith, of Syracuse—Had kept early fruit for exhibition by placing it in boxes, and covering it with damp saw-dust in the ice-house. When preserved in this manner for a few days, no injury would be done, but if kept in this condition it would be worthless.

Dr. Spence thought the ripening process was not a vital principle, but a chemical process, which could not be suspended for a long time and renewed, without injury to the fruit.

KEEPING GRAPES.

Dr. P. G. Tobey, of Rochester, who exhibited some of the best kept grapes on the tables, picked about the first of November, and put in paste-board boxes about 8 by 12 inches, and 4 inches deep. Put in cellar as soon as packed, and put in the boxes the same day they were gathered. Had experienced some difficulty in keeping grapes in an upper room during November.

L. B. Langworthy thought a little exposure for a few days would evaporate a portion of the moisture and help their keeping.

Dr. Sylvester had kept grapes through the entire winter. The fruit should be fully ripe

when picked. If exposed for some days they begin to shrivel, but if packed immediately they keep sound. Packed in small boxes, two layers in a box. Keep in upper room until very cold weather, and put in cellar.

H. N. Langworthy—Packed grapes in baskets in maple chips from the last factories, and in this way kept them till late in April, without difficulty.

Charles Downing—Had tried in every way he had ever heard of and failed in all.

Mr. Hoage, of Lockport—Packed grapes in boxes, first covering the bottom with cotton; then paper. Upon this he placed a layer of grapes and covered them with paper; then another layer of grapes. Keep in a cool room. Low, even temperature is necessary for their preservation.

L. Barber, of Bloomfield—We raise for market in our town more than thirty tons of grapes every year. We never pack grapes as soon as picked, but have small houses on purpose made for drying or curing the stems. The grapes are placed on shelves, and are permitted to remain in this room, well ventilated for about two weeks, and until the stems are ripened. Not one pound out of ten will be saved from mildew if they are packed with the stems green. Any grapes that are not fully ripened shrivel, but well ripened bunches do not. Grapes should hang on the vines until we have had two or three hard frosts. After the stems are dried the grapes are packed in small paper boxes, as close as possible, so that they will not move, and the same small boxes are packed in cases. In this way they may be sent to any market and will come out plump and fine.

Mr. La Rowe, of Steuben Co., said **Mr. McKay, of Naples**, picked his grapes in half barrels (whole barrels sawed in two). They were carried to the storehouse and kept in these tubs until the stems were shriveled, sometimes four weeks; after that assorted and put in paper boxes and sent to market. Grapes always sweat; and the surest way is to cure well before packing.

PEARS ON QUINCE.—This subject is well treated by **Mr. Saunders**, in the last *Farmer and Gardener*. He says: Pears grafted on quince, require deep, rich soil. Many failures have occurred, and much disappointment has been occasioned by planting dwarf pear trees, in the absence of a proper knowledge as to the treatment they demand. Pear culture on this system is not for those who plant a tree as they do a gate-post, and who look upon the after treatment of both in the same light, viz: Leave them until

they decay, and then plant another, grumbling all the while about the absurdity of this mode of raising pears. When planting the trees, place some light soil around the roots to give them a start. Cover the whole of the quince root and about an inch of the pear stem with soil. The quince will throw out roots freely from any portion of the covered surface, if healthy; therefore, deep planting, so long as the soil is in proper condition, is not in this case injurious. If the roots are stumpy, and destitute of fibres, cut several on various parts of their surfaces, to encourage the emission of roots.

[Written for the Valley Farmer.]

BUDDING.

BY E. H. RIENL.

Budding is a very simple operation, and may be done by any one who will exercise a little judgment with tolerable success; and farmers could often use the budding knife to good advantage on their farms. There may be some thrifty trees that bear but very indifferent fruit, that might be worked over with a better sort, and thus in a short time make good and profitable trees. There may also be some fine seedlings in the fence corners and other out-of-the-way places, that might be budded with some good fruit. Different colored roses might also be budded on one stock, which would produce a fine effect when in bloom. In fact, there are many things on nearly all farms that might be improved by budding; and thinking that some of your numerous readers might wish to do some budding this season I will give them the method which I have found best in my experience of many years.

Budding may be done from about the middle of June until late in the fall; but it is always best not to bud too early, or else the buds are apt to grow out the same year, and are then liable to be killed in winter. About the middle of August to middle of September is as good a time as any.

First, trim off the leaves and small branches that might be in the way; then, having got a scion of whatever you wish to bud, of medium size, and pretty well matured, cut off the leaves so as to leave from one-fourth to one-half of an inch of the leaf-stalk adhering to the bud; then take the scion in your left hand, place your left-hand forefinger under the bud, and with a sharp knife cut out the bud, commencing above the bud and finishing at the bottom; cut your bud from three-fourths to one inch in length, taking care not to cut the lower part of the bud too short or too thin, which you will be very apt to do at first. It is generally best to cut deep enough to cut a thin piece of wood with the

bark, but care should be taken not to cut too much; then taking the bud by the leaf-stalk with your left hand, make a horizontal cut across the place where you wish to insert your bud, then a perpendicular one below, making a figure resembling a T; with the point of your knife lift one of the corners of the bark and insert the point of your bud, then lift the other corner also, at the same time shoving down the bud with your left hand. Your bud will now be from one-third to half-ways in, then place your right hand thumb-nail on the leaf-stalk of the bud, and shove it down to its place, *letting the bud raise the bark itself as you shove it in*, but be careful not to shove it down too far. Then tie with bass or a string, commencing at the bottom and winding it upward, and tie above the bud; you need not wind close with a view to exclude the air. If your bud is about one inch long, winding it firmly some six or seven times will be sufficient.

Bass is the best thing to tie with, and it is made by stripping the bark from Linn or Basswood and Pawpaw trees, and then sinking it in water for some two weeks when the bark will be sufficiently decomposed, and it will be found to consist of thin layers of fibre very much resembling silk ribbon. Cut this into proper lengths and split so as to be somewhat less than one-fourth of an inch wide; when wanted for use it should be wetted a little. Pawpaw bass is much superior to Linn, being less coarse and much stronger. Should the trees be growing very rapidly, it will be necessary to untie and then re-tie the buds after having been inserted about a week, to prevent them from being cut by the ties.

SULPHUR VS. VINE MILDEW.—As it appears that mildew on grapes is still spreading through the country, I am anxious to bear testimony to the efficacy of sulphur as a preventive and also a cure for this very troublesome disease. Last year it made its appearance here, for the first time, and, being quite unexpected, made some progress before it was perceived; after, however, a good deal of trouble and anxiety, I succeeded, principally by dusting, in saving the greater part of the crop.

This year, however, as a preventive, I syringed all my vines, just previous to their expanding their bloom, twice over with a strong mixture of sulphur and water; and with the exception of two or three bunches, all my grapes have been entirely free from its attacks during the season.

The following facts are therefore, I consider, fully established. 1. That sulphur is a certain remedy for mildew after it has made its appearance, but that there is considerable trouble in

its application. 2. That it is a sure preventive, with but little trouble, provided it is applied with the syringe, previous to the blooming season. 3. That little or no injury is caused to the vines by its application when mixed in water.—[A. Saul, in *London Gardener's Chronicle*.]

[Written for the Valley Farmer.]

Downer's Prolific Strawberry.

BY CAREW SANDERS.

This new strawberry, which was sent out last year, and for which such extraordinary merit was claimed by its originator, has now fruited, and we are enabled to sum up its merits and point out its deficiencies.

It was claimed that it was "equal in size to McAvoy's Superior or Hovey's Seedling, equal to Burr's New Pine in flavor, and from six to ten times as productive as any other of the one hundred varieties in cultivation in his vicinity" (Todd Co., Ky.). And the committee who was called on to examine it, testify that after it had been in bearing three weeks, single plants were found averaging 123 berries to each plant, and when all others had almost ceased bearing, "Downer's Prolific Seedling was still yielding large and delicious fruit in the greatest abundance."

Of course such an extraordinary variety would be a most extraordinary acquisition, and, not to miss a chance at so good a thing, we procured a quantity of plants and set them out a year ago last spring, and the result of our experience would take it down a great deal from the lofty pedestal on which its originator had set it.

Notwithstanding the very dry season last summer, by means of good clean culture the plants made excellent growth, covering the ground all over thickly; it also wintered well and did its best in fruiting this season.

It is a hardy plant, a vigorous grower, covering the ground quickly; not fit to be cultivated in hills, and in this respect may be classed with the Early Scarlet, Extra Red and Washington, which last variety it may be compared with, throughout, as it bears considerable resemblance to it, and doubtless that had something to do with its parentage.

As said before, its habit of growth is like the Washington; the foliage also resembles it, and so does the fruit in shape, appearance and flavor. It is an improved Washington, though in some points there is no improvement on that old variety. It is a good, but not extra bearer, somewhat better than the Washington; bore a good large crop for the area, but the

plants were thick over the ground, not so thick but they could do well, and I am satisfied it is not adapted and would not do much better per single plant, if cultivated in hills.

The berries which are borne on short foot-stalks, are entirely under the foliage, and hug the ground pretty closely (a defect of the Washington also); the berries are quite large—larger, but exactly the same shape as the Washington, namely, broad, bluntly conical and round, seeds deeply imbedded, and fleshy protuberances prominent. Color, bright light scarlet, very handsome and showy; in this respect has the advantage of its compeer. Consistence, *very soft*; will bear but little handling, and soon commences to decay; no better, if hardly as good as the Washington on this point—a decided defect. In flavor it very much resembles its congener—a brisk acid, with very little of the rich strawberry aroma and flavor.

In regard to its length of bearing season, three weeks would fairly cover the earliest and latest ripening, and it is behind the Washington by several days in point of earliness.

We have now fairly and candidly summed up its qualities, as they appear to us, and it is almost superfluous to say, that we have varieties that surpass it in almost every one of the above qualities, and that it does not deserve the very high position claimed for it. Still, we shall not discard it; deem it a good variety, and worthy of further trial; although it never can possess the requisite qualities to render it a popular market or family sort.

[Written for the Valley Farmer.]
Calendar of Operations in the Vineyard.

BY GEORGE HUSMANN.
 JULY.

This is another month in which there will not be much to do in the vineyard, provided your work has been done in time.

Tie all the young canes well, and when they have reached the upper lath on the trellis, lead them along on it.

Keep the ground smooth and clean, allowing no weeds to grow.

Look to your layers and grafts. Keep the former well supplied with soil, at least an inch deep; and the latter well sprouted and tied.

Early grapes will begin to color about the middle of the month.

Keep your beds of cuttings, if you have any, well cultivated and clean.

FRUITS.

The roses are bright in their summer days' light,
 With their delicate scent and their exquisite hue:
 But though beautiful flowers claim many a song,
 The fruit that hangs round us is beautiful too.

When midsummer comes, we see cherries and plums,
 Turning purple and red when the glowing sun falls;
 They hang on their stems like a cluster of gems,
 In ruby and coral and amethyst balls.

How delicious and sweet is the strawberry treat,
 What pleasure it is to go hunting about,
 To raise up the stalks all besprinkled with dew,
 And see the dark scarlet eyes just peeping out.

Don't you think we can find in the nectarine rind
 A color as gay as the dahlia's bloom?
 Don't you think the soft peach gives an odor as fine
 As the hyacinth, petted and nursed in the room?

The apricot, yellow, so juicy and mellow,
 Is tempting as any fresh cowslip of spring,
 And the currants' deep blushes come through the
 green bushes,
 Or hang in white bunches like pearls on a string.

The mulberry tree is enchanting to see
 When 'tis laden with autumn fruit, pulpy and cool,
 And those other rich berries so guarded by thorns—
 Oh, who loves not the flavor of gooseberry fool?

The woodbine's fair leaves and clematis that weaves
 Round the window, are pleasant to all that pass by;
 But I'm sure the full clusters of grapes on the vine,
 Are as lovely a sight for the traveler's eye.

The apple's round cheeks, with their rose-colored
 streaks,
 And the pears that are ready to melt on the spray—
 I am sure we must own they have beauties that vie
 With the daisy and buttercup spread in our way.

Then the brown nut that drops as we push through
 the copse,
 Till busy as squirrels we rest on the sod—
 Oh! I think it has charms for our gathering hands
 To match with May blue-bells that sparkle and nod.

So, though poets may sing of the blossoms of spring,
 And all the bright glory of flowers may tell,
 We will welcome the berries, the plums and the
 cherries,
 And the beautiful fruits shall be honored as well.

ELIZA COOK.

DRYING RHUBARB.—Rhubarb dries very well, and when well prepared, will keep good for an indefinite period. The stalks should be broken off while they are crisp and tender, and cut into pieces about an inch in length. These pieces should then be strung on a thin twine, and hung up to dry. Rhubarb shrinks very much in drying—more so than any plant I am acquainted with, and strongly resembles pieces of soft wood. When wanted for use, it should be soaked in water over night, and the next day simmered over a slow fire. None of its properties appear to be lost in drying, and it is equally as good in winter as any dried fruit. Very few varieties of rhubarb are suitable for drying, as most of them contain too much woody fibre.—The best variety of rhubarb for any purpose is the Victoria, when grown in a suitable situation. The Mammoth is worthless, owing to its fibrous nature, as are also some other kinds.—[*Prairie Farmer*.]

[Written for the Valley Farmer.]

Seventy Bushels of Strawberries to the Acre at one Picking.

In the height of the strawberry season, we found the yield was what we considered very large, and as there was one small patch which could be easily measured, being evenly set with plants, and a square nearly by itself, we had the curiosity to try the yield.

This picking occurred on Monday forenoon, June 2nd, and was cleanly picked on the Friday evening previous, leaving a space of two days and three nights between the pickings. From a piece of ground of 3060 superficial feet, or something over the fourteenth of an acre, we picked five full bushels, each of which would measure out nine gallons at retail, or enough more to make up the overplus on the fourteenth part of an acre.

This was without any extra culture whatever. The bed was in its third season of bearing; was planted in rows four feet apart, the plants all taken out from between the rows each year, leaving from 12 to 18 inches width of plants. This patch yielded at the rate of over 200 bushels per acre for the season, and the same could be made to yield 250 if not 300 bushels per acre, by proper culture. It is perhaps almost needless to say that the variety was the Wilson's Albany.

CAREW SANDERS.

[Written for the Valley Farmer.]

Another Year with the New Grapes.

[Continued from June No.]

Marion Port—Productive enough, and will, I think, prove a valuable wine grape here, as it is said to be in Ohio. Bunches and berries of medium size; black, juicy, and of good flavor. Will, I think, make a very dark colored wine. Deserves further trial, as promising well.

Hyde's Eliza, or *Canby's August*—Resembles the foregoing very close, is a better table, though not, I think, as good wine grape.

Mary Ann—Has a beautiful and peculiar color, and is very productive. Early, and very sweet, but of strong, rather disagreeable aroma.

Blood's Black—This is the earliest grape yet fruited here, which is, probably, almost its sole merit. Belongs to the *Isabella* class, but is of very indifferent quality. Ripened last year 10th of July. Productive.

Baxter—A fine bunch, and seems to be a rough, hardy grape. I cannot say much of its merits as yet.

Rebecca—Of excellent quality, but seems to be

a rather shy bearer. Will, I think, prove a grape for the amateur, but not a market variety. Grows slender, but long enough.

North Carolina Seedling—A fine, large berry and bunch, of good quality; showy; moderately productive; a very strong grower. Deserves further trial.

Louisiana—Promises highly as a wine grape; berries small, but of excellent quality; bunch compact; productive, a strong grower. Will, I think, prove highly valuable.

Elisburg—Berry small, but sweet, juicy and good; a nice little grape for dessert, but, I think, superseded by better sorts.

Early Isabella—I cannot find that it is any earlier than the old *Isabella*, nor of better quality. It is, however, a strong grower, and immensely productive.

Cunningham—An uncertain bearer; sometimes giving a full crop, sometimes very little; but the wine surpasses any thing I have ever tasted—certainly the best wine I ever drank, and would be worth \$4 to \$5 per gallon. Deserves attention.

To Kalon—A large, fine berry and bunch; of excellent quality. Seems to be at home here, and promises very well.

Union Village—Looks fine, and promises to do well here. A strong, healthy grower; berry enormously large. A grape for those who will have "big" fruit.

Arrott—A white grape, good grower and bearer; fruit very sweet, but seems to me devoid of flavor. May improve on closer acquaintance.

Rulander—A fine grower and bearer; handsome, compact bunch, but small berry. Promises to be a good wine grape.

Rosine of Smyrna—This, and the following, are foreign grapes, but seem to succeed pretty well if covered with ground in winter. Berry very large; bunch long and very large; berry white, translucent, of delicious quality. Shows an enormous crop this season, and the bunches are even now, just after the bloom, a foot long. Every amateur should have it, and it may even prove valuable for market.

Terre Promise, or Grape of the Promised Land—Bunches enormously large, sometimes two and a half feet long, shouldered, each of about twenty shoulders on the bunch; looks as large as a very large *Catawba* bunch. Berries medium, white, translucent, and of excellent quality. A monster among grapes, and I would not part with it, as it seems to do well if covered in winter.

GEORGE HUSMANN.

[Reported for the Valley Farmer.]
Meramec Horticultural Society.

MERAMEC, June 5th, 1861.

The thirtieth monthly meeting was held according to adjournment. The President in the chair.

On motion the reading of the minutes of the last meeting was dispensed with. Two new members admitted.

The Committee on Fruit reported on exhibition fine specimens of Wilson's Albany Strawberry and Houghton's Seedling Gooseberry, by Mr. J. S. Seymour; Houghton's Seedling and Common Wild Gooseberry, and Red Dutch Currants, by Mr. T. R. Allen; Early May Cherries, Houghton's Seedling Gooseberries, White Grape, White Dutch and Red Dutch Currants, by Mr. L. D. Votaw; Houghton's Seedling and Crown Bob Gooseberries and Black Currants, by Dr. J. B. H. Beale (the Crown Bob mildewed); Whitesmith Gooseberries, by Mr. Ed. Vaughan; and Wellington's Glory Gooseberries, by Wm. Muir.

NORMAN J. COLMAN, Chairman pro tem.

The Flower Committee reported an exquisite bouquet by Mrs. Dr. J. B. H. Beale, and deem a splendid specimen of *Amaryllis* by the same lady worthy of special notice, which, though a native of Southern climes, has received only a slight protection of its roots in the ground during the winter; now its superb coloring commands universal admiration, and shows how much may be done by only a little care at the proper time.

W. MUIR, Chairman.

The Vegetable Committee reported specimens of the Early Canada Potato, presented by T. R. Allen, of good size; specimens of Early White Sprout Potatoes, presented by O. Kittredge, of good size; and Green Peas, by L. D. Votaw. O. KITTREDGE, Chairman.

The Executive Committee reported the continuance of the subject of "Insects," and "The Summer Treatment of Young Orchards," as subjects for next meeting. Adopted.

MISCELLANEOUS BUSINESS.

Mr. T. R. Allen was requested to state his mode of growing these potatoes. They were planted on the first day of March, on a high hill, with light but good soil, the underlying rock keeping it rather dry; and they received very little cultivation; have from three to four acres; they are very early and very fine, now measuring as an average $2\frac{1}{2}$ by 2 inches. Originally obtained in Canada.

Mr. Kittredge said his potatoes—the Early White Sprout—were planted about the middle of March, on good ground, high but level; he cut the potatoes into four or five pieces, so as to have two or three eyes to each piece; gave about average culture; they produced well; average of specimens 3 by 2 inches.

GOOSEBERRIES AND STRAWBERRIES.

Mr. N. J. Colman, in response to an especial call, said, this had been rather a bad and unprofitable season for the Strawberry and Gooseberry Grower; the season was unfavorable, and the financial condition of the city had caused prices to be very low. He would market about 300 bushels of Houghton's Seedling Gooseberries from bushes in their third year, and receive an average of \$2 per bushel; last year received from \$4 to \$5 per bushel. Cost of picking, thirty cents a bushel. Have tried about twenty varieties of the most celebrated foreign varieties, but find the only really healthy variety to be Houghton's Seedling, of native origin. Large quantities usually come to our market from Cincinnati; but this season, as yet, there have not been so many.

Of Strawberries, the Washington was most cultivated for the city market. We have tried the Large Early Scarlet, and find it of no value; and the McAvoy's Superior, Longworth's Prolific, and Wilson's Albany to be the best; Jenny Lind is a fine early berry; Triomphe de Gand promises very well, but more time will be required to decide its merits; Downer's Prolific and Hooker's Seedling promise quite well. This season the continued wet made the

strawberry very soft, and dealers gave up the Washington and the McAvoy, and gave a decided preference to the Wilson's Albany. The McAvoy's Superior is an excellent family strawberry. We send strawberries to market in boxes about three inches deep, containing a bushel, and sell them at wholesale at \$4 per bushel. Our soil is very rich, and some varieties that do not do well with us, succeed well on dry, sandy soil. We measured a piece of ground in the Wilson's Albany, and from one-fourteenth of an acre there was taken at one picking over five bushels. From 200 to 300 bushels per acre ann, I think, be gathered in the season, if extra pains are taken in cultivating the plants.

Mr. J. S. Seymour thinks that in this season from \$400 to \$600 per acre can be realized, and the cost of labor to the crop is about \$15 per acre more than corn.

Mr. N. J. Colman being asked, said he had heard of the mildew in Dr. McPherson's Houghton Seedling Gooseberry plants, and thinks it arises entirely from their situation. They are planted in a low basin, with a hill on two sides, and timber quite close upon the third; planted quite close, and among fruit trees. The air had no chance to circulate. Give the Houghton Seedling a good situation and there is no danger of mildew.

Mr. Seymour remarked that the ground had been sub-soil plowed without being under-drained; which he thinks an injury, as tending to let the roots push deeply into stagnant moisture, particularly injurious in a season such as this.

Mr. Allen has his Houghton's planted out on an open point, finds them very productive and quite healthy. He planted out a thousand last season, and though so very dry did not lose five per cent.

Dr. J. B. H. Beale has his ground neither under-drained nor sub-soiled, and finds them perfectly healthy and productive.

The meeting adjourned for dinner.

THE ARMY WORM.

The subject for discussion for the day, "The Insect Enemies of the Horticulturist," was then taken up, and in the absence of an Essay promised by Mr. J. F. Long, upon the earnest call of the meeting, Mr. N. J. Colman opened the subject.

He said that insects in general formed a subject of vast importance to the cultivator of the soil at all times, and this season the Army Worm presented itself, and, by its terrible ravages, forced itself upon our attention. He believed that it was not an occasional visitor, but was with us every year; but that certain conditions were required to develop them to the extent that they had been this season. Some say that when we have much rain and cool weather insects are more numerous, but he has yet to learn that cool weather is productive of animal life of any kind. He has tried to find correct descriptions of it but failed. It is now in its larva state, and goes down into the earth to undergo its change into the pupa state, when it will emerge as a moth or the perfect insect; lay its eggs, and reproduce its race. In view of this, some say that if you plow deeply in the fall or spring you will destroy them. Their habits of life and the circumstances attending the change into the chrysalis state, and from that to the perfect insect, are worthy of our study. A German, with whom he had conversed, called it the *Bombyx Graminis*. It would be a simple and interesting operation to take the worms and put them into boxes of earth and watch their transformations into a chrysalis and then into a winged insect.

Dr. J. B. H. Beale said his knowledge of the Army Worm was very limited, but he remembered the last season in which its ravages were remarkable in this country. It was in the year 1849, at which time he resided at Bridgeton in this county, and its course of destruction was much the same as this year—Blue Grass, Timothy, and, these failing, any piece of young corn that came in their way, were completely eaten up; and the amount of damage to the hay crop

was immense. In regard to the differences of season and the effects of the winter—in '48 it was very dry; the entire winter of '48 and '49 was one continuance of cold sleet and ice; the spring of '49 was very much like this for rain and was cool. The extensive meadows of Florissant were completely ruined.

The Secretary said that the Army Worm was very correctly described by several entomologists, but generally under the popular name of Grass Caterpillar, from its marked preference for grass. Its scientific name as given by Mr. Townsend Glover in the Patent Office Report for '55, was *Locusta*. In that article its ravages in Georgia in '54 were graphically described. It is "a caterpillar from an inch and a half to an inch and three-quarters in length. A longitudinal light brownish line runs down the centre, and two yellow lines along each side of the back, which is somewhat veined with black lines, and is of a dark color, marked with black spots, from each of which grows a black bristle or hair. Below these yellow stripes the sides are of a dark color, almost black; beneath this, extends a light colored line, in which the spiracles are placed. The lower part of the body is of a dirty green, spotted with black. The head is black, marked with two lines of a yellowish color forming an angle on the top. The body is somewhat hairy. The caterpillar has six pectoral, eight ventral, and two anal feet. The above description applies only to the brightest colored specimens of the Grass Worm, as they vary much in color and markings, some of them being almost black, and showing indiscriminately their stripes. The chrysalis is brownish black, and is formed in a cocoon of silk under the ground, the sand and small pebbles being so interwoven with it as to cause the whole cocoon to appear like an ovoid ball of earth * * * The moth measures about an inch and one-fifth across the wings when they are expanded; the upper wings are grey, slightly clouded with a darker color, and a lighter spot or ring is faintly seen in the centre; the under wings are of a yellowish white, shaded with grey along the margin near the upper wings."

The President called attention to the injury that was inflicted on young apple trees by the larva of the Snapping Beetle (*Thick-legged Buprestis*). He had noticed many of them on his trees, while engaged in brushing them with soft soap, which was undoubtedly an important preventive against injury by them.

Mr. Allen had found his trees injured by the insects described.

Mr. N. J. Colman thinks there is but little of the real Apple Tree Borer (*the Saperda Bivittata*) in the Western country; but finds the *Buprestis*, the insect so well described by the President, deposited its eggs in any portion of the bark of the tree that had been injured, either by the winter or otherwise, and the eggs being hatched the young grubs eat into and around the tree and beneath the bark, and if not removed destroy it.

The Secretary has seen the true *Saperda Bivittata* in quite a number of orchards in the county, and has the perfect insect presented by Mr. Braches to the Society. It is frequently to be met with, though not so much so as the grub of the May Beetle.

The President announced the next meeting to be held at the house of Dr. J. B. H. Beale, at Eureka, on the first Thursday of July.

On motion the meeting adjourned.

WILLIAM MUIR, Sec.

MOWING LAWNS.—It is of the first importance that the first mowing should be done as early as possible in the season. If left to grow long before the first cutting, the leaves get yellow at the base, and at every cutting after the yellowness appears, totally destroying the fine green color which gives the lawn its chief attraction. Where a first-rate mowing is desired, it is best

to roll the grass the day before cutting. The grass is then pressed all one way, and cut evenly, and any dirt or stones pressed beneath the surface that would otherwise take the edge off the scythe. A good lawn-mower keeps his scythe very sharp. Some grind a little before each regular set-to at mowing. Those who are not accustomed to mowing lawns, should take but few inches in width at a time, so as not to "score." With a little thought and judgment, any field-mower can soon become a good lawn hand. A sharp scythe is the chief element of success.—[*Gardener's Chronicle*.]

DWARF APPLE TREES.—Dwarf apple culture, which has yet received but little attention, is a subject deserving the especial notice of fruit growers. The apple, as a standard, has been almost excluded from suburban gardens, on account of the room required for the trees, and their long time in coming into bearing. But dwarf apple trees, as objects of ornament as well as luxury, are scarcely less valuable than the pear. They need but little space, come into bearing immediately, and a small plantation of them will supply an abundance of fruit of the finest quality. Their importance has been altogether overlooked.

The truth with standards is, that when they begin to bear they produce more fruit than is needed, and they do not afford a variety or succession, unless sorts are grafted on a tree.—Dwarfs obviate this: a single tree or two produces as many of one sort as are wanted, and the little room they occupy allows the planting of two or three dozen varieties, which ripen their fruit every week from July to winter. They supply the possessor with apples of varied beauty, dissimilar flavor, and the highest excellence.

The Apiary.

THE SWARMING SEASON.

In Missouri and all South, the great swarming season is now present. Those bee keepers who use movable frame hives will find it much pleasanter and far more profitable to divide their swarms arbitrarily than to allow them to leave of their own free will. Where you depend upon natural swarming, so much watching and anxiety are required in order to know when swarms issue, and there is so much danger of swarms leaving after being hived, that, in fact, bees are about as much trouble as profit. But where you have them under your control, just as much as you have your sheep, and can divide and partition them off into separate apartments and families, as you can your flocks, there is no watching, no care, no swarms leaving the hive; and as you can divide them when you please (that is, any time in the day when most convenient), you are not liable to be summoned from your work just at a time when it is most inconvenient to leave.—We advise all bee keepers to get their bees into movable comb hives as soon as possible, as they will greatly increase their profits, and find the labor, care, and trouble of keeping bees reduced one-half.

Surplus honey boxes will be put on the hives now, or very soon; but if early swarms are wanted it is better to delay putting them on until after the old colony has been divided or it has swarmed.

A little attention, daily, is now necessary to keep all insects away from the hives; all dirt and filth, and dead bees brushed off; and grass and weeds from obstructing the entrance.

C. B.

The Poultry Yard.

DISEASES OF FOWLS.

The Roup is a species of catarrh to which fowls of all kinds are exceedingly subject, especially if they are ill-fed and confined in close places. There is a swelling around the eyes, and discharge from the nostrils, and driveling from the mouth, at first limpid, and afterwards becoming purulent and fetid. The crop is unnaturally hard—the digestive organs sympathise with the respiratory ones.

Common salt is often given in this case, with good effect; it usually acts as an emetic. The dose is half a teaspoonfull of the saturated solution.

Next to this is cleanliness; the eyes and head should be frequently bathed with warm water. Warmth is indispensable; it is the secret of treating almost every morbid affection of the respiratory passages of our domestic animals. The apartments in which they are kept should, however, be well ventilated. James' powder is very useful, in doses of a grain made into a pill with bread.

After this, garlic and rice beaten into a mass, with a little butter, and pills of it forced down the throat of the fowl.

Ducks and geese are very subject to this complaint; in geese it is called *gargle*.

The Pip.—This name has sometimes been given to a disease of the glands of the rump; but it more properly belongs to the head, and especially the respiratory passages. The bird refuses all food, or he makes ineffectual attempts to get it into his mouth. On examination, there will be found a white, hard gathering about the tongue and the back part of the mouth, and the opening from the nose into the mouth. The eye that was bright yesterday, is now perfectly white. The bird has become all at once blind. On a closer examination, it will be found that this is a white, cheesy matter that has covered the eye and surrounded the tongue, and stopped the passages of the mouth; with some trouble it can be picked to pieces and almost entirely removed, and the light and the faculty of swallowing are restored; and this must be done without delay. The parts must then be washed with a weak solution of white vitriol, and a piece of garlic about the size of a couple of grains of black pepper, given twice or thrice a day; but in the majority of cases this cheesy substance is formed again and again, and the bird is choked, or dies of exhaustion.

Affections of the Skin.—Birds are often covered with a minute insect that teases them without mercy. Gurli states that the greater part of these insects do not touch the skin or suck the blood, but live on the feathers, and irritate the birds by their rapid and incessant motion. But he adds, there is a mite, the *Dermanyssus avium*, which only comes on the birds at night, and which does suck the blood. This mite is particularly troublesome to pigeons and domestic fowls; if horses are kept near where fowls roost

it will pass to them, and produce a disease similar to mange. Pimples and ulcers break out in various parts, and the feathers cease to grow, or are plucked out. All this arises from the same cause. An application daily, of one part of hydrocyanic acid with twenty of water, well rubbed in where the itching exists, will afford relief. Not more than a drachm of the lotion should be used at a time.

One part of strong mercurial ointment with twelve parts of lard, rubbed in daily, is also a good remedy.

Molting.—This is a trying season with birds, and many die in the process. During this period the fowl requires to be well supplied with food, and of a stimulating nature. A little canary or hemp seed is a valuable addition to their food in molting season.—[Exchange.]

LIME IN POULTRY HOUSE.—Limewash the inside of your poultry house, using lime fresh from the kiln, and mixing a handful of flowers of sulphur in every bucket-full of the limewash. To prevent the occurrence of vermin, the floor of the roosting house should be covered some inches deep with sand, the droppings raked off every morning, and the sides of the house whitewashed as above directed, at least twice annually.—The nests in the laying house should be frequently renewed, and the whole interior of that house similarly limewashed.

PRESERVING EGGS.—Put into a tub or barrel one bushel of quicklime, two pounds of salt, half a pound of cream of tartar, and mix the same together with as much water as will reduce the composition or mixture to that consistency that it will cause an egg put into it to swim with its top just above the liquid, then put and keep the eggs therein.

Have the tub stand in the cellar or some cool place. Eggs will keep a year or two in this way.

THE SEX OF EGGS.—M. Genin has addressed the Academy des Sciences on this subject. He says he is able, after three years' study, to state with assurance, that all eggs containing the germs of males have wrinkles on their smaller ends, while female eggs are equally smooth at both extremities.

The *Valley Farmer* readers will now know how to raise males or females—as they choose.

HENS THAT LAY WELL.—Almost any breed of poultry will lay well, if fed well and properly cared for, while the best will not if poorly fed and taken care of. A few hens will produce more eggs at any farm-house if compelled to shirk for themselves than a great many. The few can find enough scraps, insects, &c., to keep in good condition and lay well, while the many cannot. Everything to succeed well needs care and attention.



[Written for the Valley Farmer.]

EVENING THOUGHTS.

BY MARY A. GARY.

Another link has parted
Life's mystic chain;
A beam of light from Heaven
Gone back again.

The shades of one more evening
Closed o'er my way,
Shutting from my dim vision
The light of day.

What record doth the angel
This night enrol
Upon his wondrous tablet,
Against my soul?

If into Error's marshes
My feet have strayed;
Where sins, like weeds and rushes,
Were interlaid;

If listlessness or languor,
The foes of prayer,
Have stolen o'er my spirit,
And nestled there—

Then may the soft-eyed seraph,
Note it with pain;
And with his tears of mercy
Efface its stain;

Of the day's thoughts and actions,
Record the near,
And to a pitying Saviour
Leave all the rest.

GREATNESS.—All greatness consists in this: in being alive to what is going on around one; in living actually; in giving voice to the thoughts of humanity; in saying to one's fellows what they want to hear or need to hear at that moment; in being the concretion, the result of the present age. In no other way can one affect the world than in responding thus to its needs, in embodying thus its ideas. You will see, in looking into history, that all great men have been a piece of their time; take them out and set them elsewhere, and they will not fit so well; they were made for their day and generation.—

The literature which has left any mark, which has been worthy of the name, has always mirrored what was doing around it: not necessarily daguerreotyping the mere outside, but at least reflecting the inside—the thoughts, if not the actions of men—their feelings and sentiments, even if it treated of apparently far-off themes.

NAMES OF GREAT MEN.

ED. VALLEY FARMER: Thinking it might be interesting, and would fix some historical facts and knowledge in the minds of your young readers, I will ask them if they ever noticed how many eminent men have lived whose names ended with the letters "on." I will write those occurring to me now, and I hope that if a name occurs, with which our little readers are not familiar, and of whose history they know nothing, that the information which parents, teachers, friends and books can supply will be sought.

Washington,	Norton,	Middleton,
Wellington,	Jefferson,	Matignon,
Napoleon,	Madison,	Dalton,
Jackson,	Hamilton,	Anacreon,
Harrison,	Clinton,	Dickinson,
Nelson,	Emerson,	Fulton,
Anderson,	Johnson,	Ferguson,
Milton,	Eaton,	Hudson,
Newton,	Livingston,	Stephenson,
Byron,	Williamson,	Richardson,
Melancthon,	Alison,	Wilson,
Solomon,	Benton,	Caxton,
Lytton,	Hopkinson,	
Bacon,	Huntington,	

Many more names might be added. Many in the above list are connected with American history.

C. W. MUEFFELDT.

Oregon, April 13th, 1861.

THOUGHTS FOR YOUNG MEN.—Costly apparel and splendid cabinet have no magnetic power to make scholars. In all circumstances, as a man is, under God, the master of his own fortune, so he is the maker of his own mind. The Creator has so constituted the human intellect, that it can grow by its own action, and by its own action it most certainly and necessarily grows. Every man must, therefore, in an important sense educate himself. His books and teachers are but helps; the work is his. A man is not educated until he has the ability to summon, in case of emergency, all his mental power in vigorous exercise to effect his proposed object. It is not the man who has seen most, or read most, who can do this; such a one is in danger of being borne down, like a beast of burden, by an overloaded mass of other men's thoughts. Nor is it the man that can boast merely of native vigor and capacity. The greatest of all the warriors that went to the

seige of Troy had not the pre-eminence because nature had given him strength, and he carried the largest bow, but because self-discipline had taught him to bend it.—[Daniel Webster.

RIGHT STYLE OF MEN.

Well, in the first place, there must be enough of him; or failing in that—but, come to think of it, he musn't fail in that, because there can be no beauty without health—or at least according to my way of thinking.

In the second place, he must have a beard; whiskers—as the gods please; but a beard I insist upon, else one might as well look at a girl. Let his voice have a dash of Niagara, with the music of a baby's laugh in it. Let his smile be like the breaking forth of the sunshine on a spring morning. As to his figure it should be strong enough to contend with a man, slight enough to tremble in the presence of the woman he loves. Of course, if he is a well made man, it follows that he must be graceful, on the principle that perfect machinery always moves harmoniously; therefore, you and himself and the milk pitcher, are safe elbow neighbors at the table. This style of handsome man would no more think of carrying a cane, than he would use a parasol to keep the sun out of his eyes.—He can wear gloves or warm his hands in his breast pockets, as he pleases. He can even commit the suicidal-beauty-act of turning his outside coat collar up over his ears of stormy days, with perfect impunity. The tailor didn't make him; and as to his hatter, if he depends on this handsome man's patronage of the "latest spring style," I fear he would die of hope deferred; and yet—by Apollo!—what a bow he makes, and what an expressive adieu he can wave with his hand! For all this he is not conceited—for he hath brains!

But your conventional, handsome man, of the barber's-window-wax-figure-head-pattern, with a pet lock in the middle of his forehead, an apple-sized head, and a raspberry mustache, with six hairs in it; paint pot on its cheek, and a little dot of a goatee on its chin; with pretty blinking little studs in its shirt bosom, and a neck-tie that looks as if he would faint were it tumbled—I'd as lief look at a poodle. I always feel a desire to nip it up with a pair of sugar-tongs, drop it gently into a bowl of cream, and strew pink rose leaves over its little remains.

Finally, my readers, when soul magnetizes soul, the question of beauty is a dead letter.—Whom one loves is always handsome: the world's arbitrary rules notwithstanding; therefore, when you say, "What can the handsome Mr. Smith see to admire in that stick of a Miss Jones?" or "What can the pretty Miss T. see to like in that homely Mr. Jones?" you simply talk nonsense, as you generally do on such subjects. Still the parson gets his fees, and the census goes on all the same.—[Fanny Fern.

The highest existing structure in the world, is the Cathedral spire of Strasburg, Europe, being 471 feet.

Old Friends Together.

Oh time is sweet when roses meet
With Spring's sweet breath around them;
And sweet the cost when hearts are lost,
If those we love have found them.
And sweet the mind that still can find
A star in darkest weather!
But nought can be so sweet to see,
As old friends met together.

Those days of old, when youth was bold,
And time stole wings to speed it,
And youth ne'er knew how fast time flew—
Or knowing, did not heed it.
Though grey each brow that meets us now—
For age brings wintry weather—
Yet nought can be so sweet to see,
As those old friends together.

The few long known, that years have shown
With hearts that friendship blesses;
A hand to cheer—perchance a tear—
To soothe a friend's distresses;
That helped and tried—still side by side—
A friend to face hard weather!
Oh, thus may we yet joy to see,
And meet old friends together.

Gentle Words.

The sun may warm the grass to life,
The dew the drooping flower,
The eyes grow bright and watch the light
Of Autumn's opening hour—
But words that breathe of tenderness,
And smiles we know are true,
Are warmer than the summer time,
And brighter than the dew.

It is not much the world can give,
With all its subtle art,
And gold and gems are not the things
To sanctify the heart:
But, O, if those who cluster round
The altar and the hearth,
Have gentle words and loving smiles,
How beautiful is earth!

VEGETABLE TALLOW.—The Agricultural Bureau of the Patent Office has received specimens of vegetable tallow known to botanists as *merystica sebifera*. It comes from a nut about the size of a nutmeg, full of meat, which being melted becomes a yellowish tallow, excellent for candles. The plant is a native of central and South America, and naturally attains a height of ten or twelve feet. It carries herbaceous flowers from July till September, and makes so profuse a secretion of oily matter that this may be readily obtained from it, in the form of fat, by immersing it in boiling water.

H. L. Clarke, Esq. United States minister at Guatemala, writes that he has no doubt that this article might be collected and exported at considerable profit. It grows in immense quantities in the Southern departments and in Verapez. It is susceptible of such high purification as to resemble the finest sperm—is solid, and quite as transparent. A sample of this production, in the nut and in the tallow, is now among the numerous collections at the Patent Office. The cultivation of it from the seed will be tried at the horticultural garden.—[Scientific American.

Humorous Clippings.

"A little nonsense, now and then,
Is relished by the best of men."

Matrimonial history is a narrative of many words; but the story of love may be told in a few letters.

In all matters, except a little matter of the tongue, a woman can generally hold her own.

A Western poetess speaks of waving a kiss to her sweetheart. These rhyming girls had better waive kisses altogether.

"Ma," said a little boy, "will that woman go to Heaven any sooner than you because she has a pew all to herself?"

When a fly finds himself approaching a spider's web, he should remember the advice in Washington's Farewell Address, to "avoid tangling alliances."

At a recent festival meeting, a married man, who ought to have known better, proposed—"The ladies," as "the beings who divide our sorrows, double our joys, and treble our expenses."

One of Sir Boyle Roche's invitations to an Irish nobleman was rather equivocal: "I hope, my Lord, if you ever come within a mile of my house, you'll stay there all night."

"Why do you always beat me down in my prices?" "Because you are a vulgar fraction of humanity, and a vulgar fraction should be reduced to its lowest terms."

Sir John Davies, a Welshman, in the reign of King James I. wrote a letter to the King in these words: "Most mighty Prince! the gold mine that was lately discovered in Ballycurry turns out to be a lead one."

Tired Out.—A three-year-old nephew of my friend's had just finished his usual prayer at his mother's knee, when she said:

"Now, Willie, pray for your grandfather and grandmother."

He did as directed.

"Now for your aunts and uncles."

He prayed for them.

"And now for all your cousins."

His petitions went up for this class.

"And now, Willie, pray for all the world," said his mother.

Wearied out, perhaps, by the length of his exercises, he exclaimed:

"Mamma, it's just as much as I can do to pray for my own 'lations."

The following is an exact copy of a printed notice which is at present posted in a Jersey stage: "Lost—a calf red. He had a white spot on one of his behind legs. He was a she calf. I will give three dollars to everybody what will bring him home."

"How do you get along with your arithmetic?" asked a father of his little boy. "I've ciphered through addition, partition, subscription, distraction, abomination, justification, hallucination, creation, deprivation, amputation and adoption." That boy will do for an engineer on a short-line railroad.

He who asks no questions at all is queer; but he who asks many questions is the querist.

The real victim of a coquette is the man she marries.

A man who had purchased a pair of new shoes, finding the road to be rather a rough one, decided on putting the shoes under his arm, and walking home barefooted. After awhile he stubbed his great toe, taking the nail off as clean as a whistle. "How lucky!" he exclaimed, "what a tremendous kick that would have been for the shoes!"

A Quaker lately popped the question to a fair Quakeress, thus: "Hum—yea and verily, Penelope, the spirit urgeth and moveth me wonderfully to beseech thee to cleave unto me, as flesh of my flesh, and bone of my bone." "Hum—truly, Obadiah, thou hast wisely said, and inasmuch as it is not good for a man to be alone, I will sojourn with thee."

A certain Irishman received for his labor a one dollar bill on one of the Illinois banks, on which he was obliged to lose ten cents discount. The next day he was passing down Main street, and saw a dollar bill lying on the side-walk on the same bank, and gazing on it he exclaimed: "Bad luck to the likes of ye—there may ye lie: devil a finger will I put on ye, for I lost ten cents by a wicked brother of yours yesterday."

A "bumptious" traveler overtaking an old Presbyterian minister, whose nag was much fatigued, quizzed the old gentleman upon his turn out. "A nice horse, yours, Doctor! very valuable beast, that; but what makes him wag his tail so, Doctor?" "Why, as you have asked me, I will tell you. It is for the same reason that your tongue wags so—a sort of a natural weakness."

A certain judge was once obliged to double in with an Irishman in a crowded hotel, when the following conversation ensued: "Pat, you would have remained a long time in the old country before you could have slept with a judge, would you not?" "Yis, yer honor," said Pat; "and I think yer honor would have been a long time in the old country before ye'd been a judge, too."

"Doctor," said an old lady the other day to her family physician, "kin you tell me how it is that some folks is born dumb?" "Why—hem!—why, certainly, madam," replied the Doctor. "It's owing to the fact that they came into the world without speech!" "Dear me," remarked the old lady, "now just see what it is to have a physick education. I've axed my old man more'n a hundred times that ar same thing."

Domestic Department.

RECIPE FOR BLACKBERRY CORDIAL.—To one quart of blackberry juice, add one pound of white sugar, one tablespoonfull of cloves, one of allspice, one of cinnamon and nutmeg. Boil all together fifteen minutes—add a wine-glass of whisky, brandy or rum. Bottle while hot, cork tight and seal. This is almost a specific in diarrhoea. I have known severe cases of dysentery cured by it—and one dose, a wine-glassfull for an adult, and half that quantity for a child, will often cure diarrhoea. It can be taken three or four times a day if the case is severe. It is very palatable—no child refuses to take it.

RICH COCOA-NUT PIE.—One quart of milk, six eggs, one cocoa-nut. Grate the cocoa-nut fine; flavor with lemon, vanilla or rose water, sweeten with white sugar.

BLACKING FOR HARNESS.—Melt four ounces of mutton suet with twelve ounces of beeswax, and twelve ounces of sugar candy, four ounces of soft soap dissolved in water, and two ounces of indigo finely powdered. When melted and well mixed, add half a pint of turpentine. Lay it on the harness with a sponge, and polish it off with a brush. This blacking is for working harness, which should be cleaned and polished up at least once a week when in constant use.

GRAPE JAM.—Boil grapes very soft and strain them through a sieve. Weigh the pulp thus obtained, and put a pound of crushed sugar to a pound of pulp.—Boil it twenty minutes, stirring it often. The common wild grape is much the best for this use.

QUINCE JAM.—Weigh twelve ounces of brown sugar to one pound of quince. Boil the fruit in as little water as will do, until it is sufficiently soft to break easily; then pour off all the water and mash it with a spoon until entirely broken; put in the sugar and boil twenty minutes, stirring it very often.

FOR CLEANING SILK.—Take equal quantities of alcohol—whisky will do—soft soap made of wood ashes, and molasses. Mix, and rub with a cloth; afterwards rinse in clean water, once or twice, dry it or wrap in cloth till ready to iron.

A PLAIN RICE PUDDING.—Take a $\frac{1}{2}$ pound of rice, tie it in a cloth, but give room for swelling; boil an hour; then take it up and stir in $\frac{1}{2}$ pound of butter; grate in some nutmeg, and sweeten to your taste; then tie up close, and boil another hour; when done, turn it into your dish, and pour melted butter over it.

APPLE DUMPLINGS.—Make a good puff paste, pare some large apples, cut them in quarters, and take out the cores; then put the four quarters together, and roll the crust round each apple; have a pot of water boiling, take a clean cloth, dip it in the water, and shake flour over it; tie each dumpling by itself, and put them in the boiling water, which keep boiling all the time; if your crust is light and the apples not very large, half an hour will boil them, but if large, an hour; when done, take them up, lay them in your dish, and throw fine sugar over. Make a sauce of butter, sugar, wine and nutmeg.

BAKED FLOUR PUDDING.—Boil a quart of milk, stir in six spoonfull of flour, when cold add six eggs, butter and sugar to your taste, a few raisins.

BOILED FLOUR PUDDING.—Eight eggs, twelve spoonfull of flour, one quart of milk, boil it an hour.

ENGLISH PLUM PUDDING.—One pound of flour and the same of suet mixed together, one pound of sugar, one pound of raisins, one pound of currants, nine eggs, some brandy with a little cold water; boil five hours.

BAKED RICE PUDDING.—Five spoonfull of rice, one quart of milk, a small piece of butter, and a little allspice; sweeten to your taste; bake it two hours.

ORANGE PUDDING.—Half a pint of cream, half a pound of sugar, three eggs, six ounces butter, juice of an orange, the peel grated, half the whites of the eggs left out, spice to your taste; to be strained and baked in pastes.

PASTE PUDDING.—One quart of milk, eight eggs, eight spoonfull flour, three ounces butter, sugar and spice to your taste; thicken the milk over the fire as you would make starch; bake in a rich paste.

SUNDERLAND PUDDING.—One quart of milk, seven eggs, six spoonfull of flour, a little salt, butter your dish and bake it while taking up the dinner.

PLAIN BOILED PUDDING.—Take a pint of new milk, mix with it six eggs well beaten, two spoonfull of flour, half a nutmeg grated, a little salt and sugar; tie it in a bag and put it into boiling water; half an hour will boil it. Serve up with melted butter.

BISCUIT PUDDING.—Seven biscuits pounded fine to one quart of milk, boil it and stir it until thick, then add a quarter of a pound of butter, one pint of milk, half a pound of sugar, nine eggs, spice to your taste.

PRESERVING BUTTER MILK.—“Take a vessel that contains nearly twice as much as you wish to save.—While milk is plenty fill it two-thirds full of butter-milk, and then fill up with water. Drain off the water and re-fill with fresh once a week, stir it well each time after filling, and you will have a good article always ready.”

TO DRIVE AWAY MOSQUITOES.—Camphor is the most powerful agent. A camphor bag hung up in an open casement will prove an effectual barrier to their entrance. Camphorated spirit applied as perfume to the face and hands will act as an effectual preventive; but when bitten by them, aromatic vinegar is the best antidote.

TO DESTROY FLIES.—To one pint of milk add a quarter pound of raw sugar, and two ounces of ground pepper; simmer them together eight or ten minutes, and place it about in shallow dishes. The flies attack it greedily, and are soon suffocated. By this method, kitchens, &c. may be kept clear of flies all summer without the danger attending poison. It is easily tried.

CRUMPETS.

To a pint and a quarter,
Of warm milk and water,
Add one tablespoonfull of yeast,
An egg, and a small
Pinch of salt, and beat all
Up for twenty-two minutes at least;
Then set by the batter
To rise or grow fatter,
And when it is ready, procure
A large ring that will take
In a cupfull, and bake
’Till the top of it looks of a pure
Auburn color; then turn it,
Lest the oven should burn it;
And, as soon as the other side’s brown,
You may take it away,
Without further delay,
And in like manner put others down.

VERMICELLI SOUP.—Take as much good stock as you require for your tureen, strain and set it on the fire, and when it boils put in the vermicelli. Let it simmer for half an hour by a slow fire, that the vermicelli may not break. The soup ought not to be very thick. Half a pound of vermicelli is sufficient for eight or ten persons.

Editor's Table.

EXPORTATION OF GRAIN TO ENGLAND.—Probably the exportation of grain from the United States to Great Britain of the last crop will exceed that of any previous year. In the months of September and October last, 6,428,000 bushels of wheat were exported from this country to England.

Our importations of manufactured goods from Great Britain the past year were less than some previous years. This fact, taken in connection with the increased quantity of grain sent by us to that country, has been met by an immense return of specie to this country. The amount of bullion received in New York from Europe the first three months of the present year was immense, and never before equalled in the same length of time.

VINEGAR FROM APPLE CIDER.—A subscriber wishes to know how vinegar can be made from apple cider. We have always had good success in making vinegar from cider, by putting it up stairs, or keeping it in any warm room. It sometimes takes a long time for cider to become vinegar, if kept in the cellar.

OWEN COUNTY UNION AGRICULTURAL SOCIETY, KY.—At a meeting of the stockholders of the Owen County Union Agricultural Society, held in Masonic Hall, New Liberty, Ky., April 3d, 1861, the following gentlemen were elected officers for the ensuing year: Pres. Col. W. G. Simpson; Vice-Pres. Thos. H. Ritchey; Treasurer, S. B. Brown; Secretary, J. P. Orr, Jr.

Directors: S. P. Tucker, of Grant; Wm. Payne and H. C. Castleman, of Gallatin; Robt. Ellis and John S. Gullun, of Carroll; W. W. Wright, of Henry; Jas. Gayle, R. H. Gale, R. S. Beck, W. H. Garnett, and J. W. West, of Owen.

KENTUCKY AGRICULTURAL AND MECHANICAL ASSOCIATION.—The annual meeting of the members of the Kentucky Agricultural and Mechanical Association, was held at the Court House in Lexington, on Saturday, May 11th. The annual election of officers resulted as follows:

Pres. Benj. Gratz; Vice-Pres. R. A. Alexander; Sec. and Treas. P. Burgess Hunt.

Directors: Wm. Warfield, Abraham Vanmeter, Jas. G. Kinnaird, Jacob Hughes, James Foley and Edward Oldham, of Fayette; A. D. Offutt, of Scott; R. S. Taylor, of Clarke; S. P. Kenney, of Jessamine, and A. Buford, of Woodford.

The old Board of Managers of the Maxwell Spring Company was re-elected unanimously.

PETERSEN'S LADIES' MAGAZINE, for July, is upon our table. It is a very interesting number, containing such engravings, pattern plates, reading matter, &c. as must prove particularly interesting to ladies.

Price \$2 per annum. C. J. Petersen, Philadelphia, Publisher.

WHEN TO CLEAR LAND.—One of our readers asks the best time to clear land of small trees, hazel, &c.

We have had better success in clearing land in August than at any other time. The stumps do not throw out suckers and new shoots as badly, and sometimes not at all, when clearing is done in this month. The power and vitality of the tree have been expended in making new wood up to this time, and if the tree is cut there is not enough vitality left to force out new shoots.

WATER ELEVATOR.—Attention is called to the certificate of T. L. Salisbury, Esq. He is one of our most reliable citizens. We have one of these Water Elevators in a well fifty feet deep, and one of them in a cistern twenty-two feet deep, and they give us the best satisfaction. Persons wishing to make inquiries in regard to them, can address W. I. Henry, box 1928, St. Louis, Mo.

GODEY'S LADY'S BOOK.—This Excelsior Magazine makes its regular monthly visits, filled with interesting tales, poems, recipes, engravings, fashion plates, &c. Published by L. A. Godey, at \$3 per annum.

BOOK NOTICE.—We have received from Messrs. Kile, Cleveland & Co. No. 89 Fourth Street, a copy of the Twelfth Volume of the New American Cyclopaedia, published by Appleton & Co. New York. Messrs. Kile, Cleveland & Co. are the sole agents of this celebrated work for the West, and should be largely patronized by our citizens.

There is not another work now in process of issuing, which so eminently combines all the characteristics of a really useful book as this "New American Cyclopaedia." It contains volumes of information on every imaginable subject, compiled and collected by the most competent writers in America and England. It is more particularly adapted to the wants of the American public, due prominence being given to all subjects of local and national interest. No man who claims to have a liberal education, or to be well informed on topics most usually coming up for discussion or consideration, will fail to obtain a copy.

The twelfth volume (which is just out) begins with the word "Mozambique" and ends with the word "Parr." Between these two words are over 100 pages, full of the most interesting and at the same time indispensable information, embracing all departments of science and investigation. The book is handsomely bound, and the type neat and distinct.

THE CROPS.—All grain crops are very promising. Wheat, Oats, Rye and Barley never looked better.—Corn looks well where the Army Worm has not attacked it, but a great deal has been eaten off by this pest, and had to be re-planted, making the second planting late in making its appearance. The crop of hay will be very light throughout the West, as all, or nearly all old meadows have been "taken by the Army Worm"—it prefers Timothy, next Blue Grass, but will devour clover, corn or any other green crop.

ACKNOWLEDGMENT.—Rev. Mr. Watson, of St. Charles County will accept our thanks for specimens of a fine seedling winter apple, now in excellent condition. Our friends will confer a favor by sending us any rare seedlings of all kinds of fruit.

RAIN! RAIN!!—We have had a great amount of rain the past spring and this summer. Weeds are growing luxuriantly. Keep the small plows and cultivators "hard at it." Better raise good crops of corn than of weeds.

DANVILLE, Mo. June 5th, 1861.

ED. VALLEY FARMER—The Army Worms have destroyed many meadows and wheat fields, and some corn fields, and are increasing rapidly in every direction. They seem to generate in lands that have not been plowed this season—such as meadows, wheat fields, &c. They spin webs on the stalks of grass and grain, in numerous small white knots; deposit their eggs, and in twenty-four hours hatch from 15 to 20 worms. If it were not for the worms, our prospects for a bountiful harvest were never better. D. F. S.

Get the Best Pump.

St. Louis, Mo. April 18, 1861.

Mr. HENRY—

Dear Sir—Having used one of ROBINSON'S ELEVATOR BUCKET PUMPS over a year, and having tested the advantages claimed by the inventor, I take pleasure in recommending its use by all who desire pure water and an easy working pump. Properly fitted up, it is as little liable to get out of order as any pump I have ever used.

The inventor has overcome all the objections urged against the use of chain pumps, viz: Water can be raised from any depth with perfect ease, and its use will PURIFY ANY WELL OR CISTERN, and destroy all animal matter, which the use of the old style chain pump engenders.

Respectfully,

T. L. SALISBURY,

Sec. Home Mutual Fire and Marine Ins. Co.

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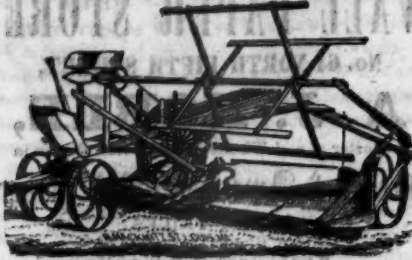
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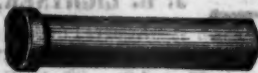
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INCORPORATED FEBRUARY 22, 1861.

CAPITAL STOCK, \$500,000.

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We shall make the office of our Company a complete mining bureau of the mineral resources of the State. We have power under our charter to purchase and sell mineral lands wherever located in Missouri. Great inducements will be offered to capitalists and mining adventurers who desire to purchase and work paying mines by dealing with this Company.

We respectfully solicit the attention of all who have mineral lands for sale to send us a statement of the same, describing the kinds of minerals on their lands, the number of acres, the location, and the lowest cash price they are willing to take for said lands.

We shall work only such mines as pay largely, but shall open and prove most of the lands we sell. The books for subscription to the stock are now open at the office of the Company, Main street, north-west corner of Locust, over the Merchants' Bank. Entrance No. 21 Locust street. All who feel an interest in this business, and have money, will do well to call and subscribe. Those wishing stock living out of the city, can secure it by inclosing ten per cent. of the amount wanted to the President or Treasurer.

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